

***United States Court of Appeals
for the Second Circuit***



APPENDIX

77-6049

UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT
Docket No. 77-6049

County of Suffolk, County of Nassau,
Town of Islip, Town of Hempstead,
Town of North Hempstead, Town of
Oyster Bay, Town of Huntington,
and the Board of Trustees of the
Town of Huntington and Concerned
Citizens of Montauk, Inc.,

Appellees,

- against -

Secretary of the Interior, et al.,

Appellants,

National Ocean Industries Association,
et al.,

Intervenor-Appellants.

The Natural Resources Defense Council, Inc.,

Appellees,

- against -

Thomas S. Kleppe, Secretary of the Interior,

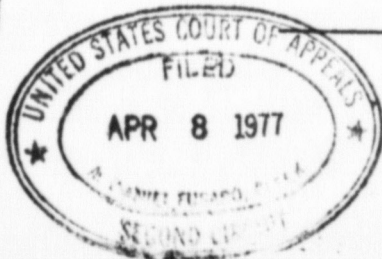
Appellant,

National Ocean Industries Association, et al.,

Intervenor-Appellants.

On Appeal from the United States District
Court for the Eastern District of New York

JOINT APPENDIX
(Volume II - 642 to 1265)



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McHugh-direct, Like

MR. LIKE: I ask the Court Reporter to mark for identification a document consisting of four pages, containing a biography of Professor McHugh, and 14 pages setting forth publications of J.L. McHugh. A copy of this document has been distributed to counsel.

THE COURT: Mark them in evidence.

THE CLERK: Plaintiffs' Exhibit 21 in evidence.

(So marked)

DIRECT EXAMINATION

BY MR. LIKE:

Q Professor McHugh, I show you Plaintiffs' Exhibit 21 in evidence and ask you whether this accurately sets forth your curriculum vitae and the publications you have offered.

A It does, yes.

Q Briefly, on the subject of your qualifications, what is your present position, Doctor McHugh?

A I am now Professor of Marine Resources at the State University of New York at Stony Brook.

Q Are you connected with any particular center at Stony Brook?

A The marine sciences research center.

Q Can you tell us briefly what laboratories you

(Time noted: 10:05 A.M.)

THE COURT: Good morning, everybody.

Would you ask the witness to take the stand, please?

JOHN LAWRENCE MC HUGH, having been previously duly sworn, resumed the stand and testified further as follows:

DIRECT EXAMINATION

BY MR. LIKE:

Q Professor McHugh, referring to Exhibits 22 through 146 which reflect the distribution of fishery resources in the Mid-Atlantic area, please tell us what date you consulted to obtain the information depicted on the exhibit?

A These came from the following scientific publications, all by members of the staff of the National Marine Fisheries Service, and these are not in chronological order. They are just as they came to me.

Arthur W. Kendall and John Wrientjes, 1975.

THE COURT: Excuse me, is that an extensive list, Doctor?

THE WITNESS: There are about seven items, your Honor.

THE COURT: All right, just deem it marked as

1
2 46A, or 47 in evidence.

3 (Document, two-page document, a letter dated
4 July 19th, 1976 from Professor McHugh marked
5 Government's Exhibit 47.)

6 MR. LIKE: I'm handing the Court Reporters a
7 two-page letter dated July 19th, 1976 from Professor
8 McHugh to myself which identifies each of the
9 references.

10 THE COURT: Thank you.

11 MR. LIKE: I'm striking out the last paragraph
12 of page two -- I'm sorry, the fourth reference on
13 page one, the paper by John S. Colton, which was
14 not used by Professor McHugh.

15 Q Do you have any other corrections to make?

16 A Strike the last line of -- the first line of
17 the last paragraph.

18 MR. LIKE: Also striking the first line of
19 the last paragraph.

20 The first sentence of the last paragraph.

21 THE COURT: Thank you, very much.

22 Q Incidentally, in preparation for your
23 testimony did you review the final environmental impact
24 statement?

25 A Yes, I did.

1
2 Q In particular, did you concentrate on any
3 section?

4 A I concentrated on the section dealing with
5 fisheries.

6 Q Did you find in the environmental impact
7 statement any of the references from which you drew the
8 information placed upon the exhibits 22 through 46?

9 A No, I checked the bibliography, the list of
10 literature.

11 Q Please repeat your answer?

12 A I checked the list of literature signed
13 against the names on this memo and none of those publica-
14 tions was on that list.

15 Now, I ought to modify that and explain
16 that it -- that two could not be on it because they
17 did not appear until this year, and there is a -- a
18 caveat attached to this -- this memo which explains that.

19 Q The two which did not appear until this year
20 appeared on what date?

21 A I don't know what date, but sometime in 1967.

22 Q '76, you mean.

23 A It's the -- 76, yes, it's the proceeding of
24 a meeting that was held at the Brookhaven National Labora-
25 tory last November on power and the ocean environment.

1
2 Q Were the papers presented at the Brookhaven
3 National Laboratory Symposium?

4 A Yes, they were.

5 Q In November of 1975?

6 A Yes.

7 Q Did you find in the final environmental state-
8 ment any charts resembling the exhibits that have been
9 marked 22 through 46?

10 A No.

11 Q You mentioned earlier in your testimony
12 yesterday that the species of fish, or a number of the species
13 of fish which are depicted on these exhibits were important
14 and valuable to fishery resources; tell us again, please,
15 which particular species are of commercial value, and
16 if you have any figures as to dollar values I would appre-
17 ciate your putting those on the record.

18 A All of the species shown here have commercial
19 value and many of them support the largest fisheries of
20 all in this general area.

21 In the area from Cape Cod including George's
22 Bank down to Cape Hatteras, it's been estimated that if the
23 fisheries were properly managed, they would support an
24 annual catch of about a million metric tons, and if you
25 want to put a price on it, I think a conservative price
would be fifty cents a pound, that would represent an

1
2 annual value of about a million dollars.

3 Q How much?

4 A About a million.

5 That's the gross value, of course.

6 Q Do you have any information as to what the
7 dollar value would be at the retail level if this volume
8 of fish were marketed in the United States at prices pre-
9 vailing in 1976?

10 A Well, I'm assuming an average value of fifty
11 cents a pound as a retail value. It goes all the way from
12 Menhaden, at about two or three cents a pound to lobster
13 at I don't know, I can't afford lobster anymore, but I
14 think somewhere about three dollars or three dollars fifty
15 cents.

16 So that -- that is an estimate, a guess at
17 the retail value.

18 Q What do you mean when you said if the resource
19 were managed properly it would produce such a yield.

20 A If -- if the resource is not overfished.

21 In other words, if there is a management
22 program in operation which allows the fisherman to take
23 only the total allowable catch and not anymore.

24 If they were to take anymore then the yield
25 would go down rather than increase.

1
2 Q Do you have any information as to steps,
3 if any, taken to assure proper management of this resource?

4 A Well, at the present time this comes under
5 the jurisdiction of the International Commission for the
6 Northwest Atlantic Fisheries, which has been in existence
7 since I think 1950, I think.

8 It has 15 or 16 member countries, all of
9 whom are fishing in the area, and it carries on research
10 year-round and at least the member countries do -- and it
11 meets once a year to formulate management recommendations
12 to Governments.

13 Q Do you know whether any management recommenda-
14 tions have been formulated and whether any management
15 recommendations have -- any management recommendations or
16 agreements have been entered into between the United States
17 and foreign interests with respect to this resource?

18 A Yes, within the Commission for 1975, the
19 fishing year that's in progress now, the Commission recom-
20 mended an overall -- the Commission recommended individual
21 species quote as on ten species or groups of species, in-
22 cluding many of these that are on these charts.

23 The sum total of those quote as was eight
24 fifty thousand metric tons.

25 In addition the Commission established what

1
2 it called a second tier quota, which was an overall quota
3 for all fin fish plus squid, and that quota is considerably
4 lower. As I remember it's 615,000 --

5 Let me -- I'm sorry, let me correct those
6 figures: 815,000, the sum total for the individual species;
7 650,000 for all species plus squid.

8 Q What's the status of the recommendation?

9 A It's in effect now.

10 Q It has been adopted?

11 A It's in operation, yes.

12 Q In your opinion would that constitute a step
13 towards the type of management which in your judgment
14 would keep a sustained yield?

15 A Yes. It had -- the idea of setting it at
16 650,000 is to build the stocks up so they will eventually
17 support a yield of about a million metric tons a year.

18 I should also add one thing and that is
19 that in addition to this in this area are some valuable
20 shellfish resources, things like oysters, clams, lobster
21 and four species of crab which are not included in that
22 figure.

23 They would be over and above the one million
24 metric ton figure.

25 Q So the dollar value of the resource would be

1
2 even greater than the estimated by you --

3 A Right.

4 Q -- if dollar figures were assigned to these
5 additional resources.

6 A Right.

7 Q Are you familiar with a statute known as the
8 Fishery Conservation and Management Act of 1976?

9 A Yes.

10 Q Can you tell us briefly what the purpose of
11 that statute is and what steps are compiled to take --
12 to be taken in implementation of the provisions?

13 A The purpose of the Act is to extend our
14 jurisdiction over fisheries out to 200 miles from the
15 coast, from the baseline from which the territorial sea
16 is drawn.

17 One of the first provisions that will be --
18 that will be followed is to establish eight regional fish-
19 ery management councils.

20 The one in this area would be the Mid-Atlantic
21 Fishery Management Council, which includes six states
22 from New York to Virginia inclusive.

23 That council will have the responsibility
24 of drawing up management plans and submitting them as
25 recommendations to the Secretary of Commerce, who will either

1
2 accept them or comment on them and return them for modi-
3 fication, or if the states do not in a reasonable length
4 of time come up with recommendations that are satisfactory
5 to the Secretary of Commerce he will then take action and
6 the Federal Government will take over.

7 (Continued on the next page.)
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DIRECT EXAMINATION

BY MR. LIKE: (Cont.)

Q Did you find anything in the final environmental statement which assessed the impact of accelerated leasing or of lease sale ⁴⁰ on the management planning which has been undertaken pursuant to the Fisheries Conservation And Management Act of 1976?

A No, there is nothing in the Act that deals with this question at all specifically.

Q Nothing in the final environmental statement? Did you find anything in the final environmental statement which assesses the impact of accelerated leasing --

A No, I don't --

Q -- on the Fisheries Conversation Act provisions?

A I can't recollect that I did.

Q Does the Act contain any provisions with respect to the proportion of catch assigned to the United States in comparison to foreign nations?

A What the Act says, in effect, is that the United States will have -- will have priority over these resources and is entitled to take whatever it can catch, whatever it wishes to catch, whatever it can take, and

2

McHugh - direct

923

that the remainder, if there is a remainder that can be taken safely without damaging the resources, then that shall be allocated to other countries on the basis of individual negotiations.

In other words, the Act will take over from the -- from the International Commission for the Northwest Atlantic Fisheries, and that -- that convention will no longer be operational after the Act goes into effect.

Q Is there any projection that you know of as to the relative proportions of catch that will be taken by the United States and foreign nations in the years ahead?

A It's expected that the United States' share will grow and that the foreign share will decrease. This is a prediction. It -- It depends a great deal on economics though.

Q What is the basis for the projection that the United States will take a larger share of the total allowable catch along the coast?

A Largely public opinion that -- that considers that these fish are American fish and ought to be taken by Americans.

Q Professor, of what value are these exhibits

31 McHugh- direct

to a decision-maker?

A Well, I -- I think they are of value in the sense that they demonstrate how widespread these resources are at some stage of their life history, that at some stage of their life history most of them traverse the area where the proposed lease sale might take place, and that they also migrate north and south and east and west with the seasons, so that even if a particular resource is not in the general area of the -- of drilling at one time, it could very well be at another time of the year.

The -- I think the -- the basic, most important purpose in preparing these charts was to demonstrate that there -- there were data available which were not used in the environmental impact statement and that if the decision-maker had had this information at his disposal he could have made a wiser decision.

Q Of what specific value, if any, is the depiction of the proximity of the distribution of fisheries to the proposed drilling sites? Of what value to a decision-maker?

A Well, I think first -- first, the most valuable item really would be to demonstrate that there are some extremely valuable resources here that could be affected by accidents that might take place or by any

4 McHugh - direct

by-products of the exploration and exploitation process.

For instance, if there were -- if there were a blowout during --

Q Hold it. Would you repeat your answer, please.

A If there were a blowout during exploration it's possible some damage might be done to fishery resources. This doesn't say that it would be done but it demonstrates the possibility. The resources are in the vicinity.

Q Would you please define the term "renewable resources" and contrast it with the definition of a non-renewable resource?

A Well, a renewable resource is a living resource which reproduces year after year, replaces losses due to deaths from any causes, whereas a non-renewable resource is, I think I am correct in saying, a non-living resource which cannot reproduce itself, at least on the time scale that we think about with fishes.

Q Would another way of describing a non-renewable resource be to term it a finite resource?

A Yes.

Q And would the word infinite be a reasonable approximation of the longest of the living resource?

5 McHugh - direct

1
2 A It would be as long as those resources are
3 being managed properly.

4 Q Would the fishery resources depicted on the
5 exhibits fall within the classification of renewable
6 resources?

7 A Yes.

8 Q Would the oil and gas which is alleged to
9 be located in the proposed lease sale area be considered
10 a finite non-renewable resource?

11 A On the same time scale as the fisheries, yes
12 it would be -- it would be finite.

13 Q Would it be of value to a decision-maker
14 to have some basis for comparing the economic value of
15 the renewable fishery resources with the economic value
16 of the non-renewable oil and gas resources alleged to be
17 located in this area?

18 A Yes, that would make sense to me. I think
19 it would be helpful.

20 Q Did you find in the final environmental
21 statement any attempt to assess, quantify or compare the
22 economic values of the living resources versus the non-
23 renewable resources of the proposed lease sale area?

24 A Not that I recollect.

25 Q Is it possible in your opinion to develop a

6 McHugh - direct

1
2 standard of methodology and procedure which could be used
3 as a basis for making such comparison?

4 A Well, I -- I want to make it clear that I am
5 not an economist and I can't make a judgment that an
6 economist would but I think -- I think it could be done.

7 Q And would the availability of such a standard
8 be a useful tool for the Secretary of the Interior for
9 making an informed decision as to whether to lease or not
10 to lease in the proposed lease sale area?

11 A I would think so.

12 Q I would like to turn now to your review of
13 the final environmental statement and your preparation
14 to testify today.

15 And my first line of questions will concern
16 the data which you looked at in preparing yourself to
17 testify.

18 Did you have an opportunity to review any
19 additional documentary evidence besides the final environ-
20 mental statement on lease sale 407

21 A Yes, I did, I have looked at the -- I can
22 never remember, the PDOB for the specific site, Program
23 Decision Operation Document for Sale 40. And I have
24 also looked at the -- the proposal that was made by the
25 Virginia Institute of Marine Sciences to do research for

1
2 B.L.M. to extend the background knowledge.

3 MR. LIKE: I ask the Reporter to mark
4 for identification, a request for proposal dated
5 March 17, 1975.

6 Your Honor, this document surfaced during the
7 deposition of Mr. Basile.

8 THE COURT: Mark it in evidence.

9 THE CLERK: Plaintiff's Exhibit 48 in
10 evidence.

11 (So marked.)

12 MR. JENSEN: Your Honor, we object.

13 First of all, I don't think the document is
14 authenticated and secondly, I don't see the rele-
15 vancy of the thing at all.

16 THE COURT: May I see it?

17 MR. LIKE: The document was given to us
18 by Mr. Basile during the course of the deposition,
19 at which time Mr. Hyman was present.

20 MR. JENSEN: Well, even if the Court is
21 willing to accept it as an authenticated document,
22 of what conceivable relevance could this request
23 for a proposal for an unrelated environmental
24 study have to this proceeding?

25 MR. LIKE: May I answer that, your Honor?

1
2 THE COURT: No. The claim is that you
3 did not do the studies properly. Here is a proposal
4 for a study that it is claimed would have helped
5 you.

6 BY MR. LIKE:

7 Q I show you Plaintiff's Exhibit 48 in evidence
8 and ask you whether you reviewed this document?

9 A Yes, I did.

10 Q You testified that a proposal was submitted
11 by the Virginia Institute of Marine Sciences in response
12 to this request for a proposal.

13 A Yes.

14 Q And you reviewed the response of the Virginia
15 Institute of Marine Sciences?

16 A Yes.

17 Q Was there also a contract entered into in June
18 of 1975 between the Virginia Institute of Marine Sciences
19 and the Bureau of Lands Management pertaining to the
20 baseline studies to be conducted by VIMS?

21 A There was a contract. I don't remember the
22 date.

23 Q Do you remember reviewing that contract?

24 A Yes.

25 Q Do you recall also reviewing any quarterly

2 summary reports of progress on the VIN3 contract?

3 A I have seen three quarterly summary reports
4 in sequence, the first three that have been produced.

5 Q Based upon your review of this data have
6 you formed an opinion as to the adequacy of the final
7 environmental statement and the adequacy of the baseline
8 studies program instituted by B.L.M. from your perspective
9 as a marine scientist?

10 MR. JENSEN: Objection, your Honor. Objec-
11 tion, your Honor, the adequacy of the baseline
12 studies program is not in issue here.

13 I know of no law that would allow this
14 court to review the adequacy of an environmental
15 study that's being conducted by a government agency.

16 The study formed no part of the Secretary's
17 decision-making process here. The adequacy of
18 that study is simply not in issue, it can't
19 conceivably be in issue.

20 THE COURT: Well, the claim is that the
21 Secretary and the Government should have studied
22 these things before it made its decision. I will
23 permit it on that issue.

24 MR. LIKE: Your Honor may also add that the
25 Government has tendered its baseline study program

as its satisfaction of the NEPA requirements and consequently the Government has made this an issue.

MR. JENSEN: I dissent from that interpretation of what the Government has done.

MR. LIKE: The impact statements that have been filed --

THE COURT: Overruled.

MR. LIKE: -- are abundantly clear that this is the Government's position.

BY MR. LIKE:

Q Please tell us, Professor McHugh, what your opinion is as to the methodology employed in the final environmental statement and the methodology which is evidenced by the baseline study program?

A I will address myself only to the fishery section, Mr. Like.

Q Please.

A Because these are the sections I have studied in detail. I think what I consider to be the basic fault in the environmental impact statement, the final environmental impact statement, is that it is a catalog rather than a discussion of cause and effect, and it appears to me from my study of the -- of the VIMS' contract that this is simply proposing to extend the catalog and to

describe in more detail what is there.

In fact, in the -- in one of the documents --
I think the -- I think it was in the VIMS proposal but I am
not absolutely certain of that -- there is -- there is
fairly clear evidence that they were unhappy about what
they were asked to do by B.L.M. and that they would
have preferred to do things in a different way or do other
things, but in the RFP, of course, they were given
rather rigid guidelines as to what should be done.

And it is -- it's largely a descriptive
study rather than a study of mechanism, processes and
so on.

(continued next page.)

JB flws.

McHugh-direct-Like

jb/ss

2aml

DIRECT EXAMINATION

BY MR. LIKZ: (Continuing.)

Q What, in your opinion, in the value of doing a cause and effect type study rather than a cataloguing descriptive study as apparently done by BLM?

A I don't mean it should be done instead of a descriptive study. Obviously, a descriptive study is important, too. But it is only one part of the issue.

What I mean by study is of mechanisms and processes. Things such as that.

We know, for example, that the microscopic copepods that are very important food for young fishes and some adult fishes can ingest particles of oil and apparently pass them through the digestive tract and release them into the environment again. We know very little about the effects of the petroleum products on these animals. And we know virtually nothing about what might happen to the fishes which eat the copepods. So that it seems to me that it would be most important to examine those processes because this would give the decision-maker an additional set of information that would help him to determine and perhaps even forecast more accurately what the effects of petroleum in the natural environment might have on the fishery resources.

Another kind of study that might be undertaken

McHugh-direct

2 1 would be the nature of a control oil spill. And I don't have
2 a detailed plan in my mind. But an oil spill that could be
3 controlled in some way. And then examine the processes, the
4 biological processes that go on under that patch.
5

6 Q Do you have an opinion as to whether the
7 approach followed by the Bureau of Land Management in its
8 final environmental statement and in its baseline study
9 program -- withdrawn.

10 In your opinion, Doctor, is the approach --
11 does the approach followed by the BLM in its final
12 environmental statement and in its baseline study program have
13 any predictive capability or value?

14 A No. I don't think it will produce results that
15 will improve predictability significantly.

16 Q Is the Bureau of Land Management asking the
17 right questions in its baseline study program?

18 A I suppose that is really what I am saying, that
19 they did not ask all of the right questions in the environmental
20 impact statement.

21 Q I would like to turn now from your evaluation
22 of the methodology employed by the Bureau of Land Management
23 to its treatment of the data. Do you have any comments as to
24 the adequacy of BLM's treatment of the data as set forth in
25 the final environmental statement and in the other materials

3 1
2 that you have examined.

3 MR. JENSEN: I object to the form. What data?

4 MR. LIKE: The data as to the fishery section,
5 which is the only portion that the professor is
6 testifying to.

7 THE COURT: Overruled.

8 THE WITNESS: Yes. I find a number of things
9 that I consider to be deficient. For example, in
10 several places in the statement where the discussion
11 is dealing with individual species, there are graphs
12 showing historic landings, commercial landings in the
13 United States. And those graphs end with 1968.

14 Now, they could have been extended to at least
15 1973. Maybe 1974. And, in fact, along with these
16 graphs are tables that do this. But it's curious why
17 the graphs were used at all if they had to stop at
18 1968. And this led to some erroneous conclusions in
19 some cases.

20 For example, in the discussion there is mention
21 of the fact that the catches of ~~amar~~ flounder had been
22 declining and that catches of oyster landings have
23 been declining. And yet, if the data up to date had
24 been examined, it would have been very clear to the
25 person who wrote this that, indeed, the abundance and

2 catches of summer flounder were increasing. and that
3 in two states in the last decade or so, in Maryland and
4 -- in the last fifteen years, oyster production has
5 been increasing substantially. It also has been
6 increasing substantially in New York State in the last
7 eight or nine years.

8 Q Did you find any -- did you find any information
9 in the final environmental statement regarding the increases
10 in oyster production in the states you have mentioned?

11 A I did not find anything. It was just a general
12 statement that oyster production has been declining, or words
13 to that effect.

14 Now, it's true that there's been an overall
15 general downward trend, but that has been reversed in the last
16 ten or fifteen years.

17 Q Did you find any specific errors as to the
18 figures for oyster production, for example?

19 A Well, I did find one error which I think also
20 influence the conclusion.

21 Q What page did you find that on?

22 A On page 495, the figure --

23 Q Do you know what volume?

24 A Volume 1. On page 495 of Volume 1. The figure
25 for 1971, oyster production in Maryland, is erroneous. The

correct figure is a little over 17-million pounds. And I think this page gives -- yes. For 1971, in Maryland, the page gives 1,363,000 pounds. And the correct figure is 17,116,000 pounds.

Q What page is the table at?

A That's on page 495. That just caught my eye as I was going through the table as being a number that was obviously out of line. And it -- what it does is tend to mask the upward trend in production in the last several years.

Q What is the source of your information that the correct figure is over 17-million pounds?

A Statistics published annually by the National Marine Fisheries Service.

Q Did you find any mention in the final environmental statement of the status of the surf clam resources?

A Yes. There was some discussion of it, but largely, again, descriptive, not -- no discussion that I could find of the fact that the resource is almost certainly being overfished and that production probably is going to start dropping fairly soon.

Q Is there any mention of its importance as a domestic fishery resource?

A It's mentioned in terms of the magnitude of

McHugh-direct

landings and the value of the landings, yes. But no discussion of its domestic importance on the continental shelf. It's one of the most important fisheries out there. One of the most important domestic fisheries out there.

Q Do you have any comments as to the discussion of the commercial -- discussion of the relative commercial catch of striped bass and sport catch?

A Yes. There is a statement, again in Volume 1, Page 503, and the statement is approximately like this. Well, perhaps I should read it to be absolutely certain.

"The commercial fishery for striped bass is centered in the Chesapeake Bay region. Commercial catch is equaled by sports catch."

Actually, the figures -- the best figures we have show that the sport catches is six or seven times as large as the commercial catch.

Q What is the basis for your statement that the sport catch --

A Again, statistics published by the National Marine Fishery Service.

Q Was there any discussion in the final environmental statement as to foreign catches?

A Yes. Foreign catches are mentioned. But there are no detailed figures given, as I recollect.

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2 fishery section did not have the necessary first-hand
3 experience that one would need in this profession in
4 order to make assessments of impacts on fisheries.

5 That's all I was going to ask him. I was not
6 going to get into impugning anybody's --

7 THE COURT: All right. You can make that for
8 the record by question and answer pursuant to the
9 Federal Rules of Evidence, Rule 103.

10 All right, go ahead.

11 MR. PICCIANO: Excuse me, your Honor. May I
12 just add one thing about this. I would like to suggest,
13 your Honor, that the -- while the issue as to the
14 qualifications of Mr. Imamura perhaps may not be
15 directly bearing on the issue of this case, his
16 qualifications do have a direct bearing on whether
17 BLM applied its deeper requirement of good faith
18 efforts to put forth as best a document as it possibly
19 could. And to that extent, it is directly bearing on
20 the issue.

21 THE COURT: All right. Make your offer for the
22 record. I don't want to go into his qualifications.

23 Q Are you familiar with the type of experience
24 that, in your opinion, is required for a scientist to make
25 assessments of impacts on fisheries?

2 A I am thinking about the type of experience that
3 represents first-hand knowledge of the fisheries, by having
4 worked with the fishing fleets, by having worked in the
5 area for a reasonable length of time to understand the issues.
6 Because if you look into the literature and make all of your
7 judgments from the literature, you have no basis for making
8 valued judgments. Some papers are good. Some are very poor.
9 So you have to know the researchers as well as the people in
10 the industry. You have got to be able to judge whether their
11 work is good or not. And you cannot do that entirely from
12 the scientific literature. You have to do it with a fairly
13 detailed knowledge of those specific fisheries.

14 Q Did the description of Mr. Imamura's
15 qualifications provided by Mr. Basile in his deposition and
16 in the written material that was furnished as a result of
17 his deposition indicate to you that Mr. Imamura had the
18 requisite first-hand experience to make an assessment of the
19 impact on fisheries?

20 A With the caveat that I am not in any way
21 criticizing the gentleman himself, because I have never met
22 him, I would say that he pretty obviously has had the first-
23 hand experience that would go with the ability to make those
24 valued judgments.

25 Q Are you familiar with the discussion that has

2 taken place on the subject of the feasibility or possibility
3 of separating exploration from production?

4 A Yes.

5 Q From the standpoint -- from your standpoint as
6 a marine scientist, do you have an opinion as to whether or
7 not such a separation should be affected?

8 A From the point of view of the ability to predict
9 and present damage to the resource, it seems to me that it
10 would be a wise thing to not link the -- link permission to
11 exploit to the exploration process.

12 Q Why do you feel that way?

13 A Because if a lease were made to explore and
14 exploit, if adequate resources were found, then it might not
15 be possible to consider adequately environmental damage that
16 might result. And that a separation between the two appears
17 to me to give more time for judgment of the relative value of
18 the two resources and the -- leading to a decision as to
19 whether to extract petroleum or not.

20 Q Would the -- withdrawn.

21 Would you describe the types of data that are
22 collected and analyzed and published? Would you describe the
23 types of data which are collected, analyzed and published by
24 the National Marine Fishery Service?

25 A Well, their data fall into a number of different

FL:CR

Q In your opinion, did the Bureau of Lands Management use the best available published data from the National Marine Fishery Service sources and from the International Commission of Northwestern Atlantic Fisheries?

A Well, they -- they used some of the best available data but they did not use all of the available data.

Q Do you have an opinion, Professor, as to whether the environmental statement enables the secretary to assess the potential adverse impact of drilling on the marine environment?

A Certainly not on the fisheries.

Q Does it in your opinion enable the secretary to weight the risks and costs of adverse impact on fisheries resources?

A I don't think so.

Q Does it enable the secretary to objectively balance risks and costs against the asserted benefits of drilling?

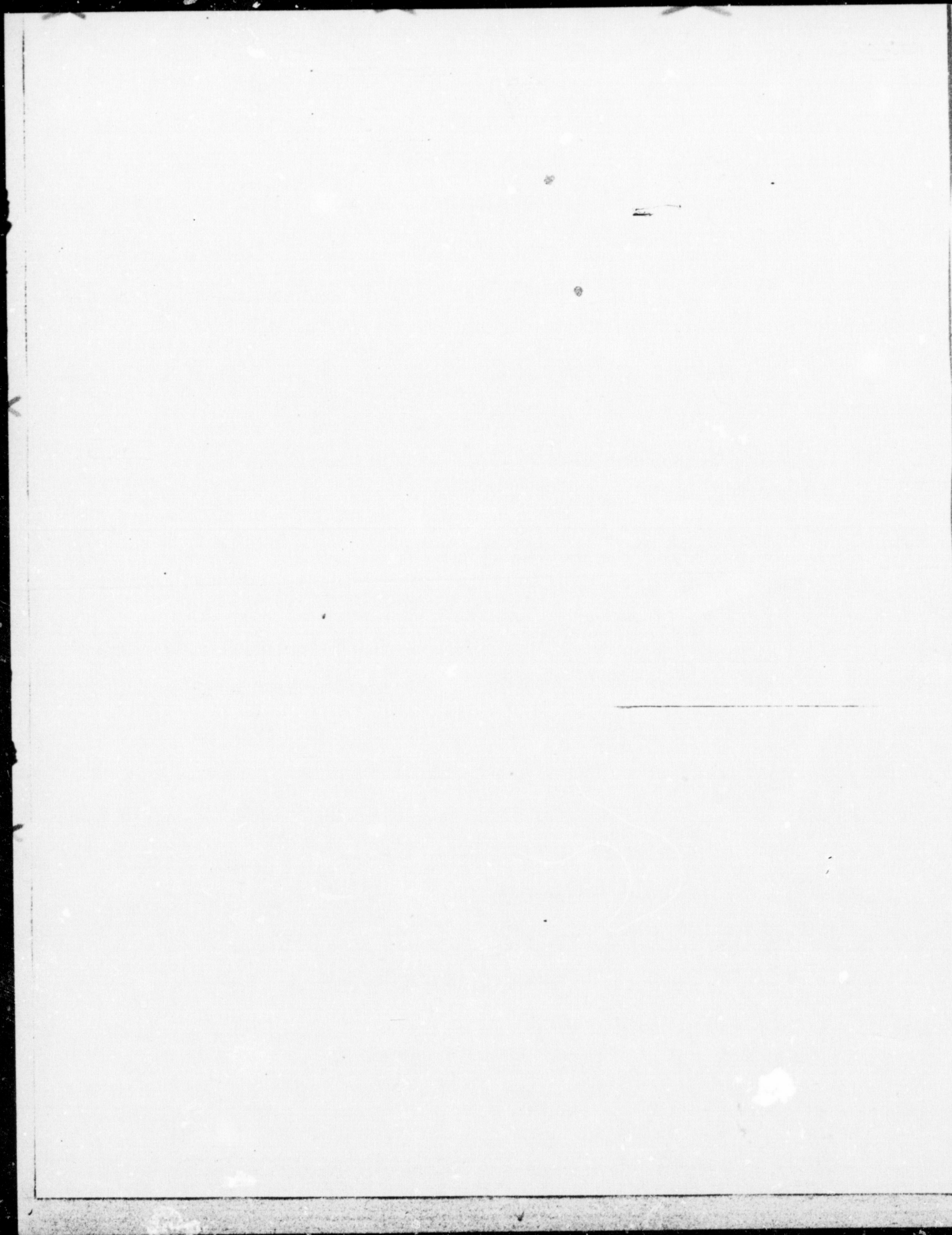
A I don't believe so.

MR. LIKE: Excuse me a moment.

Q I believe you testified that among the documents you looked at was a program decision option document for sale number forty.

A Yes.

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2 1
2 Q Do you have any comments as to the discussion
3 of fisheries in that document?

4 MR. JENSEN: Objection, your Honor. We
5 object to any questions concerning the PDOD for
6 reasons already stated.

7 THE COURT: Overruled.

8 THE WITNESS: Do you have a particular page or
9 pages you're referring to, Mr. Like?

10 Q Yes, would you turn, please, to pages 12
11 and 13?

12 A Unfortunately the copy I have in mind doesn't
13 have any numbers of the pages.

14 Well, I think the PDOD is -- is equally
15 deficient, because it doesn't cover adequately the possible
16 impact on the fisheries.

17 For example, on page 13 it says "It is unlikely
18 that sport fishing will be affected at all from activity
19 associated with the proposed sale."

20 Well, the sport fishers, the marine sport
21 fisheries operate on essentially the same species as the
22 commercial fisheries. Every species that's taken by
23 recreational fishermen is also fished by commercial fisher-
24 men, and if there is a danger of damage to the commercial
25 fisheries there appears to be an equal danger of damage

1
2 to the recreational fishers, -- fisheries.

3 That does not necessarily mean that damage would
4 take place, but the possibility remains there.

5 And the total section in this document on --
6 on fisheries is -- in this particular section demonstrate
7 -- is lessened -- is less than a page long.

8 Q I next show you, Professor, visual number
9 four, which is part of volume four of the final environmental
10 statement sale forty and is entitled "Coastal Zone
11 and Off-Shore Fishing," and ask you whether you have any
12 comments as to the usefulness of this map?

13 A Yes, I don't -- I don't think this map
14 contains very much information at all. It simply gives
15 numbers that are keyed into various species and then shows
16 a series of little short arrows which purport to signify
17 that the fish move or migrate in these directions.

18 But as a decision-making document it seems to
19 me to be very deficient in that it's almost impossible to
20 extract any precise information from it.

21 And the thing that strikes me particularly
22 is that the very valuable protected base along the south
23 shore of Long Island, there is not even any evidence that
24 there are any fisheries there at all.

25 And Great South Bay, for example, supports

1
2 one of the most important clam fisheries we have anywhere
3 in the nation.

4 I -- I think that this information could have
5 been presented in a much more precise way, and -- and --
6 and in way, that would be much more valuable to the
7 Secretary in making his decisions if it had been done as
8 we have done on these charts.

9 Q How long did it take approximately to prepare
10 the charts which have been marked in evidence as Exhibits
11 22 through 46?

12 A Well, I -- I think it took the cartographer
13 about three days working from the original illustrations
14 in those publications, but it could have been done even
15 more quickly than that if we didn't need to blow them up
16 by simply xeroxing the illustrations in these published
17 papers.

18 Q Do you recall reading the testimony of
19 Dr. Diehl in this proceeding?

20 A Yes. I did not hear Dr. Diehl but I read the
21 testimony.

22 Q Do you recall those portions of his testimony
23 which dealt with patches and with the co-occurrence of a
24 patch and oil spill and a phytoplankton mass? --?

25 A Yes.

1
2 Q Can you tell us whether any patches of the
3 type described by Dr. Diehl in his testimony appear on
4 any of your exhibits?

5 A Well, there are obviously patches on these
6 charts. I would refer to the third chart from the left on
7 the side wall.

8 A As an example --

9 MR. LIKE: With the permission of the Court,
10 will you approach the chart which contains a patch
11 of the type described by Dr. Diehl in his testimony
12 and give the exhibit number for the record?

13 And if there are more than one chart,, it
14 would be helpful if you would identify each of the
15 exhibits.

16 THE WITNESS: This is charge number 31.

17 Q Exhibit 31.

18 A Exhibit 31, I'm sorry.

19 Here are two patches, one a relatively high
20 density patch of larvae sea robins, more than 1,000 larvae
21 in the tow.

22 Here's another patch, not quite as dense, but
23 still fairly dense.

24 Q Of what species?

25 A Of the same species.

McHugh-Direct

1
2 Q And there are other examples around the
3 walls.

4 Would you please identify each of the exhibits
5 by number which contain this type of patch?

6 A Here again is a patch of Atlantic -- this
7 is exhibit number 32.

8 Q Hold it.

9 A Those are examples of patches.

10 Q Will you give us the exhibit number and the
11 patch again, please?

12 A Exhibit number 32 and this is the patch I
13 was referring to.

14 Now, I have to -- I have to qualify this
15 again by saying that I -- I don't think these were the
16 kinds of patches precisely that Dr. Diehl was referring
17 to. He was thinking of much -- a much more detailed sampling
18 that was done to produce these charts, and looking at
19 patches from various sizes, from that size to even much
20 smaller sizes.

21 Q Aside from the detailed nature of the sampling
22 is this the type of patch that Dr. Diehl was describing
23 as part of this form of co-occurrence?

24 A This would be one type of those patches, yes.

25 MR. LEE: Thank you.

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McRugh-Direct

The witness is available for cross.

THE COURT: Is there any more direct on this witness?

Do you want to take a few minutes before you begin your cross-examination?

MR. JENSEN: Yes, please.

THE COURT: All right. Take five minutes.

(Whereupon a recess was taken.)

(Continued on the next page.)

McHugh-Cross

(After the recess.)

THE CLERK: The following maps have been
marked for identification.

Map of Long Island habitats, will be marked
number 49. Long Island Preservation areas number
fifty.

Long Island Waterfowl areas 51.

Long Island Shellfish beds 52.

A composite of Exhibits 52 has been marked
as Plaintiff's Exhibit 53 for identification.

(Documents so marked.)

CROSS EXAMINATION

BY MR. JENSEN:

Q Dr. McHugh, before we get into the substance
of your oral testimony, I would like to ask you a few
questions concerning these charts which are arrayed around
the courtroom, which you used in connection with your
testimony.

First of all, am I to understand that all of
the data sources for these charges are to be found in one
of the, what is it, six or seven books listed on this
letter that's marked as Plaintiff's Exhibit number 477

A Yes, all except the one by John Colton which
was not used by the cartographer.

1 He didn't get to that one.

2 Q And I believe that you testified that at
3 least two of these were published sometime subsequent
4 to the preparation of this environmental impact statement?
5

6 A That's correct, they could not have been used
7 because the time schedule was wrong.

8 Q And which two were those?

9 A Those are the two by Hennemuth, 1976, and
10 Randall, 1976.

11 They are on attachment dated 26 July, a memo
12 from myself to Irving Like.

13 Q Well, I don't know what you're referring to,
14 but the exhibit that I have has no such reference.

15 A Oh, it should have been -- it should have
16 been attached. Perhaps I'd better tear this off and give
17 that to the court.

18 MR. JENSEN: Shall we simply attach it to
19 the exhibit that's already been submitted, Exhibit
20 47, since it was mentioned to be part of that
21 exhibit?

22 THE COURT: Yes, just staple it. Put a clip
23 on it.

24 THE WITNESS: But the -- the charts in the
25 Hennemuth report could have been extracted from the
last item on page two of the memo, the paper by

1
2 Grossline, Hyerdahl & Stearn, which contained essen-
3 tially the same charts, and that was published in
4 1973. At least was available in 1973.

5 Q I realize this is going to be a somewhat labor-
6 ious process, but I'd like you to identify going throug
7 the charts individually which data source you used for
8 which charts.

9 THE COURT: I don't want to that done for all
10 of these charts.

11 What's the point of it?

12 MR. JENSEN: Well, your Honor, we have no
13 idea how these visuals were prepared, where the data
14 was obtained, what kind of data it was, whether
15 it was data that was obtained by one ship going out
16 and making a sampling on a particular day.

17 THE COURT: Well, take one or two charts
18 and let's have him go through. Take this one
19 closest to me, for example, which is 26 in evidence,
20 and do it with that.

21 I'm not going to do it with all these charts.

22 THE WITNESS: This one shows their fall --
23 what they call their fallground fish surveys, which --

24 Q No, but my question is which data source
25 was relied upon in the preparation of the chart?

1
2 A The data source comes from the National
3 Fisheries Marine Service Laboratory at Woods Hole,
4 Massachusetts.

5 Q But is it one of these publications in Ex-
6 hibit 477

7 A Yes. Now, I have here the originals from
8 the publications, the original charts which the cartographer
9 used, and if you would like to have them I can make those
10 available.

11 Q Well, perhaps you can tell us how these
12 charts were prepared, did you physically -

13 A How these actual charts were prepared?

14 Q Did you physically draw these charts yourself?

15 A These were drawn by a cartographer who works
16 for Suffolk from the originals.

17 The reason he did them this way was simply
18 that the originals were too small to be seen in the court-
19 room.

20 Q And who prepared the original charts?

21 A Who prepared the original charts? The authors
22 of these particular papers.

23 Q So these charts were simply taken from these
24 publications and overlayed on this map that comes from the --

25 A Right.

680

Q -- BLM?

A Yes.

Q Now, some of these charts -- and I refer now to Exhibit 32, a chart which is entitled "Larvae Atlantic Menhaden October," and then the caption reads "Larvae Shallow Tow. .

Can you tell me how that data was acquired to prepare the chart?

A A tow of fine fish nets through the water. If it says that means somewhere near the surface and the net collects all the small living organisms that are in its path.

Then they preserve the material and usually examine it back in the laboratory, count the numbers of fish eggs and larvae of the different species, record them on -- in tables and then transfer this to charts and draw the contours.

Q So that all the data for this charge would have been acquired from one such tow trip?

A From one series of tows, yes.

Q How many tows?

A I don't know. I don't remember.

Q And the indication --

A Excuse me, a fairly large number.

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Q But the indication on the chart is October.

I presume, then, all of these tows were made during the month of October.

A That would be correct, yes.

Q And similarly for other charts where it gives a date or a month, would that also be an indication that that data was acquired in that specific month and year?

A At that particular time, and most of these cruises, as I recollect, last about two weeks. Some of them have been done in conjunction with the Soviet Union, so there is more than one vessel out there.

Q So that I can understand this, isn't it true particular for pelagic fish, that they are a migratory fish species and move around considerably?

A Right.

Q So that any of these tows or readings that were made with respect to those fish would be temporal in the sense that they would be limited to that particular time as to the location of the fish?

A Right.

Q Now, is it true that these fish necessarily return to the same areas at the same time the following year or in subsequent years?

A More or less.

Q But in addition to that kind of annual

1 migration is there not also a change throughout the ocean
2 over time of where these pelagic fish are located?
3

4 A They don't go out beyond -- very much beyond
5 the edge of the Continental Shelf. That is about 200 meters
6 depth. So that that confines them.

7 The Gulf Stream confines them, it acts like
8 a wall on the -- on the oceanside.

9 And the general pattern of migration is north-
10 ward and in-shore in the summertime, the spring and summer,
11 and southward and off-shore in the winter.

12 A good many of these species perform migrations
13 like that.

14 Q For these charts to be really meaningful then
15 for a person who had to make a decision about the possible
16 effect of OCS activity, wouldn't the charts have to be com-
17 piled in some way so that you could see for the broad span
18 of time?

19 A Oh, yes.

20 Q -- Where the fish would be located?

21 A Yes. These are not all the charts available
22 by any means.

23 Obviously we couldn't handle that many, so
24 we simply randomly took some charts that were available in
25 publications that were in my personal library.

1
2 Q But for each chart that would provide a
3 sliver of information that would be requested to understand
4 the location and the migration pattern for the fish in
5 the Mid-Atlantic region.

6 A That's right.

7 Q Is that correct?

8 A That's right.

9 Q Now, I believe you testified that you are
10 familiar with the Fishery Conservation and Management Act
11 of 1976.

12 Do you know when that Act was signed into
13 law?

14 A It was signed by the president on. I think
15 it was the 13th -- the 12th or 13th of April. 12th of
16 April I think.

17 No, it was the 13th.

18 Q And do you know when the drafts and final
19 impact statement for sale number 40 were prepared?

20 A Sometime earlier this year.

21 Q Were they not in fact prepared prior to the
22 adoption of the statute that you referred to?

23 A I -- I think so, yes. Although the legis-
24 lation was being considered by the Congress long before
25 that.

MR. LIKE: Your Honor, I think the record

1
2 should indicate that the final environmental impact
3 statement was issued in May 1976.

4 Did you misspeak on that?

5 MR. JENSEN: I said when they were pre-pared
6 by if you want to take the stand and testify --

7 MR. LIKE: Well, no, this will -- this
8 already should be in the record.

9 MR. BIALIK: Your HONor, in volume one of the
10 final environmental statement for sale number 40
11 it says that the final environmental statement was
12 made available on May 25th, 1976.

13 MR. LIKE: That was my recollection also.

14 I just wanted to correct the record. It's
15 not an objection.

16 MR. JENSEN: My question dealt with when it
17 was prepared, not when it was published.

18 Q I believe you testified that one of the aspects
19 of this new legislation was to create eight regional man-
20 agement councils for fisheries.

21 A Yes.

22 Q What's the purpose of these councils?

23 A Their purpose is to implement the provisions
24 of the Act in a sense of drawing up management plans for
25 the fisheries in their particular area and submitting them

1
2 them to the Secretary of Commerce for his approval.

3 Q And what will these management plans deal
4 with?

5 A They will deal with these resources and all
6 of the other living resources of value to the United States
7 on the Continental Shelf.

8 Q Will the plans -- or should the plans, rather,
9 contain recommendations concerning the amount of fishing
10 that should be allowed in a given area?

11 A Yes, in essence they will be recommendations
12 to the Secretary of Commerce as to what the total allowable
13 catch is.

14 Q And are you aware of any provisions in that
15 law which requires any coordination between the Secretary
16 of Commerce and the Secretary of Interior as far as fisheries
17 are related to outer Continental Shelf drilling activity?

18 A Yes, indeed. In fact, the Secretary of
19 Interior will have a representative on each council, a
20 non-voting representative.

21 Q And that would be in an effort to coordinate
22 OCS activities with the commercial fisheries management
23 plan?

24 A YES.

25 Q Now, I think at several points in your direct

1
2 testimony you testified that there was data which was
3 available that was not used in the Environmental Impact
4 Statement; is that correct?

5 A Yes.

6 Q Can you tell us specifically what data you
7 were referring to?

8 A These data here, for one.

9 Q Is this the total data that you said is
10 lacking?

11 A No, not by any means. I have spot-checked
12 a number of publications and -- publications that were
13 pertinent to this issue and did not find them in the -- in
14 the bibliography.

15 Q Well, can you tell us what other data is
16 missing from the final EIS?

17 A What other data are missing?

18 Q Yes.

19 A Well, for one thing interpretations as to the
20 condition of the -- of the fishery resources. This is
21 almost purely descriptive and nothing is said about whether
22 the resources are underfished, overfished or what.

23 Q I am speaking about data not interpretations.
24 Is there any other data base which you feel is missing
25 or was not used in this final for Sale 40 EIS?

1
2 A Yes, published papers, for example, which
3 would -- would improve the Secretary's capability to make
4 judgments.

5 Q Can you name some of these papers?

6 MR. LIKE: Please, may I ask that Mr. Jensen
7 allow Professor McHugh, out of courtesy, to finish
8 his answer? May we have him complete the last
9 answer he was interrupted with?

10 THE WITNESS: No, I don't think so. I
11 was -- I was finished.

12 BY MR. JENSEN:

13 Q Can you name some of these publications?

14 A Well, what I usually do -- and this will
15 lead me into a trap maybe -- what I usually do in a case
16 like this, since I know my own publications better than
17 anybody else's, I simply consider what papers I have
18 published that are germane to the issue.

19 Q And Have you published papers that were not
20 considered or included in this?

21 A Yes, I find that one of my papers is referred
22 to here but there are at least half a dozen others which
23 could have been used.

24 It was not necessary that they would be
25 used and my heart isn't broken because they weren't

1
2 referred to. It's just that it's one way of testing
3 the adequacy of the literature search.

4 Q I think you testified that if this data
5 had been included that it would assist the decision-maker
6 in making a better decision.

7 A In my opinion, yes.

8 Q In what way would it do that?

9 A It would give him more -- more data and more
10 understandings of the whole fishery question, which is
11 very complex indeed, and the complexities don't come
12 out in this document at all.

13 (continued next page.)
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McHugh-cross/Jensen

2 Q Well, what complexities are you referring
3 to?

4 A Well -- well, for example, in the section
5 that deals with social-political questions there is no
6 mention of the very important social-political inputs
7 into fishery management, which makes it very, very
8 difficult to manage fisheries.

9 I think there was a great opportunity missed
10 here to talk about that very complicated set of issues,
11 support the fishermen, commercial fishermen controversies
12 and the fact that most legislation is based upon opinion
13 rather than fact, and so on.

14 This would help the Secretary to understand
15 how these issues could be resolved and what the -- what
16 the threats are.

17 Let me give you an example to make this a
18 little clearer. The Surf Clam Fishery, which is represented
19 -- I can't read these numbers here but I can start from
20 this one, Exhibit 27, 28 and 29. These show the progres-
21 sion of the Surf Clam Fishery over a period of three years,
22 starting in 1971. And you will see -- this is 1971 --
23 that there was much more Surf Clam fishing going on off
24 the New Jersey coast and near the New York bight in that
25 year than there was in 1972 and by 1973 the fishery had

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2 shifted down to the -- almost down to the Virginia coast,
3 Virginia and Maryland coasts.

4 Now, this is of great significance because
5 one of the reasons for this southward shift is the resource
6 has been overfished in the north, and the fish -- and the
7 fleet searching for the resource has gone farther and
8 farther to the south.

9 Now, here is a resource under stress. One
10 of the functions of these councils will be to remedy
11 this situation if possible, to draw up fishery management
12 plans for the surf clam resource, for example, and if that
13 resource is under stress from such things as petroleum
14 exploration and exploitation it will be that much more
15 difficult for those councils to achieve their objectives.

16 Q And you feel that was inadequately discussed
17 in the statement?

18 A Yes.

19 Q Perhaps we would better turn to the statement
20 and see what is there. I refer your attention beginning
21 at Page 295 of Volume 1 of the Environmental Impact
22 Statement.

23 A Right.

24 Q And the following pages. Have you had an
25 opportunity to read those pages?

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McHugh - cross/Jensen

A Yes.

Q Prior to testifying today?

A Yes.

Q And you are generally familiar with what is contained in those pages?

A Yes.

Q And is it not true that in this section there is a discussion of the various types of fishes to be found in the mid-Atlantic region and various types of shellfish?

A Right.

Q There is also further discussion of their migration patterns including a chart on Page 297 detailing some of the seasonal migration characteristics of some of the more important fish species.

A A table, not a chart.

Q A table.

Is it also true at Pages 300 through 305 there is a discussion and extensive chart concerning the spawning characteristics of the major species in this area?

A Yes, it is very general but it is there.

Q And anyone reading this chart would have some idea of what the major species were and where they would be expected to spawn, at what times of year?

A That's right. In general terms.

Q And similarly, at Pages 307 through 311 there is a chart -- there are two charts actually that refer to the species composition and relative abundance of fish larvae and then species composition and relative abundance of fish larvae from estuarine bays.

A Well, I call these tables and not charts and there is a distinct difference in my mind. I call those charts (indicating).

Q All right, a table.

A Yes.

Q And don't these tables contain information concerning the percentage occurrence of the major species, larvae and --

A Yes, they do show some numbers.

Q Well, is there anything in either of these charts which you think is inaccurate or misleading in any way?

A Yes, there are a lot of errors.

Q Such as?

A Well, for instance, there is a man named Croker. Somebody's put an "a" in here, C-r-o-a-k-e-r. That's on Page 308. Well, on all those pages, as a matter of fact, 308, 309, 310. Several of the scientific names are misspelled. So I kind of wonder about the numbers, too.

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McHugh - cross/Jensen

Of course, I haven't any means of checking them out because I don't know how they were derived. There are a great many errors in the fishery section of this document which to me seems to point to careless preparation and a lack of adequate editorial review.

And here I have found a few errors, you see, in scientific names, errors in numbers in a few places, and it makes me wonder.

Q Well, let's turn now to the discussion of impacts in Vol. 2, beginning at Page 145 of that volume.

A I don't have a copy of Vol. 2 here. It's missing.

THE COURT: Does anybody have the Court's copy of Vol. 2? I couldn't find it last night. We were looking for it.

THE WITNESS: I suspect Mr. Ryman may have it, your Honor.

THE COURT: If you should find it --

MR. JENSEN: We can provide another copy of Vol. 2. I don't have the Court's copy.

THE COURT: We will need it for the record should there be any further proceeding.

MR. JENSEN: We will provide an extra copy, your Honor.

THE COURT: Well, have the Clerk mark it when you do that, please.

THE WITNESS: Did you refer to a particular page in this volume?

Q Well, the discussion begins at Page 145. Have you formed an opinion about about the adequacy of the discussion of impacts as far as fish and commercial fish in particular are concerned?

A Yes, the -- the one comment I would have I think is that it's about --

Q A job as could be done with the literature that was examined, and all the way through this document here and elsewhere with respect to fisheries it was necessary to put in qualifications.

I think that was necessary because these descriptive data, this catalog does not in itself allow forecasts to be made as to damage to -- to fish and shellfish resources.

Q Well, would you say that the statements contained in this section give a fair picture of the potential harms that might be experienced by fish and commercial fish as a result of OCS activities?

A They mention potential damage, yes, and obviously, could not have been much more specific based on

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McHugh - cross/Jensen

the data that were examined. I rather think that even if all of the available data had been examined by this approach -- that is by the -- by the catalog approach -- it probably wouldn't have led to much more precise forecasts, but without -- without examining the literature in great detail myself I don't have much of a feel for how much was missed, you see. I do know some was missed.

9

Q You feel that these forecasts are not precise enough, is that your testimony, the forecasts contained in the sections?

12

A The forecasts necessarily have to be very general.

14

Q And isn't it true that this section specifically states that there could be serious, even disastrous damage to large quantities of --

17

A That's right.

18

Q -- commercial fish? And I refer now to the top of Page 146 where it states that -- in a discussion of fish larvae -- "that some fish larvae are concentrated in the upper layers of water, the larvae could be exposed to direct kill from water soluble fractions of hydrocarbons but would also be vulnerable to starvation in the event of a massive spill that killed off their vital food supply of phytoplankton and zooplankton," would you say that was a fair statement?

8 McHugh -cross/Jensen

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2 A That's a fair statement.

3 Q And just below in the paragraph on the
4 possible sublethal effects of oil pollution, where it
5 states, "The sublethal effects of oil pollution, especially
6 from the chronic low-level discharge of oil into the marine
7 environment, are the least known and potentially the most
8 dangerous to fish. Sublethal effects are often subtle
9 and may not be known until damage to the population is
10 widespread."

11 Would you agree with that statement?

12 A Yes, I could make that statement myself but
13 I would like to point out that what has been missed here
14 is the -- is the opportunity to talk about the other
15 sources of sublethal damage to the fish.

16 For example, all of these species undergo
17 wide variations in abundance from natural causes from time
18 to time, over short periods, sometimes over long periods
19 we know almost nothing about what these factors are and
20 how they operate.

21 You are also operating against a background
22 of heavy fishing removals, which also obviously must
23 have effects on the stocks. And there is -- there is no
24 -- virtually no discussion of these interactions and the
25 difficulty of measuring the effects of petroleum against

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McHugh - cross/Jensen

1 this background, or scientists sometimes call it background
2 noise of natural and other manmade variations.

3 Q Well, has anyone to your knowledge thus
4 far in the research literature done such a measurement
5 or attempted such a measurement?
6

7 That is --

8 A I am not sure I understand the question.

9 Q -- specifically a measurement of possible
10 oil spill pollution against these other factors which you
11 delineated, the effect of overfishing on supplies of fish?

12 Is this an area that's been studied?

13 A No, I don't think so.

14 Nevertheless, I think it should have been
15 mentioned.

16 Q Now, let's turn to the section beginning
17 at Page 184, Vol. 2. It deals with commercial fishing.

18 A Yes.

19 Q In that section there is a discussion, is there
20 not, of the way in which the physical structures that might
21 be used in OCS operations would impact upon commercial
22 fishing.

23 A Yes.

24 Q And do you have any complaints concerning the
25 adequacy of that discussion?

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McHugh - cross/Jensen

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2 A I think that's a reasonably good discussion
3 of the subject.

4 Q Now, turning your attention to Page 188 of
5 the same volume, there is a summary statement of the
6 potential effects on commercial fish catches from oil
7 spills and related pollution from OCS activities and it
8 lists four potential harms that might occur.

9 Could you review those now briefly?

10 A Yes. The first one is if large amounts of
11 plankton and other small organisms that act as -- that
12 serve as fish food are destroyed or damaged, and this could
13 have an effect directly on the fisheries.

14 The second --

15 Q Would you agree with that conclusion?

16 A Yes.

17 Q All right, proceed.

18 A The second item is that "entire classes of
19 juvenile or larval fish within the contamination area might
20 be destroyed in a given area, and giving -- thereby giving
21 reduced yields in subsequent years."

22 Q I state a reasonable statement of what could
23 occur?

24 A Yes, it is a -- it's a reasonable statement
25 of something that might happen.

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Q Proceed with Number 3.

A Number 3 suggest that oil pollution might reduce the resistance of organisms to disease and other environmental stresses.

Q Is that also a fair statement of what could occur?

A Yes, it is -- it's a possibility, of course.

Q And the same for Number 4?

What is --

A Fish -- fish may have to be discarded due to the taining of the flesh. I would have added shellfish there but that's a minor point. Shellfish are much more sensitive than fishes are to oily flavors andso on. But that certainly is a distinct possibility.

Q Are there any others that you feel should be added to that list which were omitted?

A Well, yes, I would add one that I mentioned before and that's the question of additional stresses that might be put on organisms that have already been -- or stocks that have already been damaged from other human actions, that might interfere with the whole management of the fisheries, especially when governments are trying to restore resources that have been overfished.

1
2 BY MR. JENSEN:

3 Q In other words, you would have -- you know,
4 correct me if I am wrong. I want to be clear about this.

5 But you would have preferred if the statement
6 had contained some discussions of the impact on fish and their
7 location?

8 A Of an interaction between all of these things.

9 Q Of the two that is of potential harm from oil
10 and related pollution or over-fishing, which is the --which
11 poses the greatest threat to the existing supply of fish in
12 the mid-Atlantic?

13 A I couldn't answer that question because I don't
14 have any data. I think they are most serious threats, but I
15 can't say nothing about the absolute effect of petroleum.

16 Q Now, I believe you testified concerning a
17 proposal that was submitted by the Virginia Institute of --
18 is it Marine Scientists?

19 A Yes.

20 Q And in the context of that testimony, you said
21 that you felt that VIMS was unhappy about what they were being
22 asked to do.

23 What is the basis for that statement?

24 A The statement there -- it is somewhere in the
25 document and I can't identify it as to page. That with respect

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2 to one part of the study they would have liked to do it in a
3 different way, but that the request for proposal did not
4 allow them to do it that way. And I think there was something
5 said about that they would like to try and talk to BLM and
6 perhaps get a modification of that particular aspect of the
7 study.

8 Q Well, have you ever spoken with anybody at VIMS
9 concerning this proposal?

10 A No.

11 Q Have you spoken to anyone at BLM concerning this
12 proposal?

13 A Only in general terms.

14 Q So this would be the exclusive source of your
15 knowledge for that statement that VIMS was unhappy?

16 A Well, the statement is there.

17 Q What was it that VIMS was referring to when it
18 said it wanted to do it a little differently?

19 A I don't recollect.

20 Q Now, I believe that you testified that one of
21 your criticisms of VIMS' proposal is that it's going to be
22 a catalogue or a continuing catalogue entailing conditions in
23 the mid-Atlantic rather than predictive proposal; is that
24 correct?

25 A Yes. And, I gather, that is because that's what

1 BLM wants. That's what RP asked for, you see.

2 Q Well, isn't it true, Doctor, that in order to
3 do the kind of predictive studies which you are talking about
4 in the area of oil and impact on fish, that it's very
5 essential for -- first of all, to establish a baseline of
6 information concerning what the environmental conditions
7 actually are in the mid-Atlantic region?

8 A Yes. I have no argument to that at all.

9 Q So you are not saying that what they propose to
10 do is unworthy, but simply something in addition that also
11 should be done?

12 A And might have higher priority.

13 Q Could you do the one without the other?

14 A Well, it's a matter of priority. If it's --
15 if you have limited resources in terms of funds and manpower,
16 you have to decide what is the most important thing to do
17 first. Usually, you can't do everything that you would like
18 to do. And in this case I think that the most important issue
19 is to have a better understanding of the effects of petroleum
20 on processes, biological processes in the ocean.

21 Q Well, let's assume that there is a large potential
22 quantity of oil and gas in the mid-Atlantic and that the
23 government is moving as expeditiously as it can possibly do to
24 allow the exploration and development of those resources and
25

1 wants to do it within the most abbreviated time frame possible.
2 Of those two types of study that we are talking about, which in
3 that context would be the most critical study to complete
4 before you began the exploration and development.
5

6 A Well, I would certainly place priority on the
7 one that isn't being done. Because what is being done is
8 simply going to add to the catalogue.

9 I don't mean it wouldn't be good scientific work.
10 It will. It will give us more information, give you more of a
11 -- what people call a base line. But it's not going to help
12 you predict what is going to happen.

13 Q But isn't it true that once production activities
14 began and the pollution and whatever is associated with this
15 activity begins, that the base line is going to be substantially
16 changed?

17 A Yes. But if it's -- if it is that you are not
18 going to be able to tell why, you are not going to be able to
19 put your finger on the effects of petroleum any more than you
20 can on the natural changes in the environmental conditions,
21 the things that I have mentioned that cause the --

22 Q Isn't it equally true that you acquire the base
23 line data and you might not be able to recognize the changes
24 in the environmental conditions of the results of the OCS
25 activities?

1 A Well, I think we are in a position now where we
2 recognize the changes in the fish stock because we are
3 measuring them all the time. So we have a fair fund of
4 knowledge on this subject. These charts demonstrate that.
5 And these charts are by no means all of the available
6 information.
7

8 And on the question of the effect of petroleum,
9 the petroleum products on the organisms, we know far less. So
10 that's why I would give it priority.

11 Q I think you testified that one area of research
12 that you would like to see done involves, I guess, oil
13 ingestion by copepods; is that correct?

14 A Yes.

15 Q Have you done any research yourself in this
16 area?

17 A No. That's not my field of expertise.

18 Q Do you have any first-hand knowledge of this
19 problem, if it is a problem.

20 A Well, I have talked to some of my colleagues
21 about it who -- my colleagues who are qualified in this
22 particular field of biology.

23 Q And your testimony earlier concerning the
24 possible effects of this oil ingestion in the copepods is
25 based on these conditions with your colleagues?

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A Based on certain things I have read in the literature and based on my own judgment as a scientist of fairly long experience on what are the important issues. I don't necessarily have to be able to do research in that particular field to be able to form I think an intelligent judgment as to what should be done and what ought to be done first.

Q So by reviewing the literature and by discussing this with your colleagues, you think that it's possible to form an intelligent judgment about this issue?

A I think so.

Q You similarly testified that you thought it was feasible or maybe even desirable to undertake the control oil spill and to examine biological process in that context.

A I think that would be a very exciting piece of research and might get the kind of answer you want most promptly.

Q Do you in fact know whether such a study is feasible?

A I know that certain people in other laboratories have thought about the same thing.

I discussed this with Dr. Teal the other day when he was here to testify, and he said that he often contemplated doing something like this.

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2 Q And is your knowledge of this similarly based on
3 your conversations with colleagues such as Dr. Teal and your
4 review of existing literature?

5 A And my general knowledge of oceanography, yes.

6 Q Now, you also testified that you felt that ALM
7 was not asking the right questions in its base line study?
8 What did you mean by that?

9 A Well, the answers to the previous questions
10 answer that, too. In other words, the questions aren't maybe
11 so important as to what was there because we know that to a
12 considerable degree. But what happens when you put petrolaun
13 or other materials into the national environment, what happens
14 to those organisms. And that has been addressed in this
15 document.

16 Don't let me mislead you because we have just
17 gone through some of the papers. But it hasn't -- in my
18 opinion, from reading this document rather carefully, it
19 doesn't come out as a -- as a major priority as far as
20 existing knowledge or future knowledge is concerned.

21 Q Well, I think we could agree that the document
22 doesn't assign any probabilities as to likelihood that these
23 particular environmental impacts might occur? Is that a fair
24 statement?

25 A Yes, I think that is right. But I think I can

McHugh-cross-Jensen

form some judgment from the fact that the kind of things that VIMS has been asked to do are more of the same.

Q This request for proposal -- did you submit a proposal?

A No.

Q Do you know whether the institution with which you are affiliated submitted a proposal?

A No. We don't do that kind of research. We are more interested in processes.

Q Now, you testified that the 40 environmental impact statement was inaccurate in the discussion of catchers of summer flounder and of the recent figures on oyster production?

A Yes.

Q Is that true?

A Yes.

Q And that this inaccuracy tended to minimize the extent to which flounder were being caught and oysters were being produced?

A In general, that describes it. Yes.

Q Is it your feeling that this inaccuracy would mislead the secretary into believing in some way that the OCS activities were going to have less environmental harm as opposed to more harm?

McHugh-cross-Jensen

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2 A Well, as a statement of the present conditions
3 of these resources, it's an untrue statement. You see, it's
4 incorrect.

5 Q It's incorrect because the resources are more
6 plentiful than it characterized them as being?

7 A Yes. Let me give you some numbers.

8 In the State of Maryland in the last
9 approximately 15 years, the production of oysters has more
10 than doubled. I think it's about -- an increase of about
11 two and a half times.

12 In the State of New York, the oyster industry
13 was at a very low level of production. In 1967 I think
14 something like only about a hundred thousand pounds of meat
15 were produced. Last year it was almost two and a half million
16 pounds. And this has been done by scientific well controlled
17 culture of oysters.

18 So that a general statement that says that the
19 oyster industry has been declining, describes in general the
20 long term effect, but it is quite misleading with respect to
21 the situation today.

22 Q But over the long term, has it in fact been
23 declining?

24 A Over the long term, there's been a downward
25 trend. But that trend has been reversed in the last fifteen

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years along the Atlantic coast.

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Q Now, one of your other criticisms concerned the inadequacy of the discussion of foreign catch data; is that correct?

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Yes.

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Q And you testified that foreign catch data is well documented?

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A

No, I didn't say that I don't think. What I intended to say was that it's better documented than our domestic catches. It's not -- I wouldn't like to leave the impression that it's totally accurate because I am sure it is not.

14

Q

Isn't it the truth of the matter that foreign catch data is oftentimes wildly inaccurate because of the foreign fishing fleets will exceed their quotas and will violate the restrictions and the regulations which have been placed upon them?

19

A

But if they exceed their quotas, we find it out. And so the statistics are accurate to that extent.

21

Q

We do?

22

A

Yes.

23

Q

In every instance?

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A

I am sure not in every instance, but in many instances. But, again, I will stick by my statement that they

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McHugh-cross-Jensen

are -- in general, they are more accurate than our domestic fish statistics. And I can explain why if you would like to know.

Q Well --

THE COURT: Well, I would like to know.

THE WITNESS: Well, your Honor, our fishermen are mostly paid in cash. They don't like paying income taxes.

THE COURT: I see.

THE WITNESS: That's it in a nutshell. And so our commercial fisheries' statistics are usually very much underestimated. And salt water sport fishermen on the other hand are proud of what they caught and so they usually exaggerate.

Q Now, I think one of your criticisms of the environmental impact statement was that the person who would have authored certain sections would rely to a great degree on a study that was done by Salla & Pratt of the University of Rhode Island?

A That's my impression because that paper is cited a number of times throughout the fishery section.

Q Are you familiar with these two individuals, Salla and Pratt, who prepared the statement?

A Yes.

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McHugh-cross-Jensen

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What is your opinion of their qualifications in this area?

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Now, I was confused in your testimony concerning separation of exploration and production. I believe you testified that from your point of view that would be desirable; is that correct?

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Yes. Without evaluating the economic aspects, which I am not competent to judge, it just seems to make sense to me to find out what reserves are there before you decide on an exploitation scheme. It might turn out that the reserves aren't worthwhile exploiting.

So this is your general observation about the desirability of knowing whether or not there is oil there before you commit yourself to produce?

It's based on more than that. In this program decision option document in my hand on the very first page, it says that.

McHugh-cross-Jensen

"There is no assurance that petroleum in marketable quantities or any petroleum at all will be found."

Q Marketable.

A Yes. So that on that basis, and just from my - from my rather general thinking about the problem, I conclude that if it were economically feasible, why not. Why link the two? Why not find out what is there first and then make your plans to exploit.

Q I don't understand your concern here. Are you concerned that the oil companies might be throwing away their money and gambling on these leases?

A No. I am concerned that the very fact of exploration, if it did find exploitable reserves, might then automatically lead to exploitation without any further consideration of the environmental consequences.

Now, there may be no reason for that concern. But because I don't consider myself an expert in this field, but I am concerned --

Q Are you familiar with the OCS program as it's now structured? Have you studied that in any way previous to testifying?

A No, not in any great detail. I couldn't qualify as an expert on that.

Q So you are not familiar with the process prior

McHugh-cross-Jansen

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2 to development, OCS lessees have to submit development plans
3 to be reviewed by the state and to be reviewed by the
4 Secretary of the Interior.

5 A Yes, I understand that in general terms. But,
6 you know, you could still come out with a document like this
7 which has also been reviewed by these people.

8 Q Now, you also testified that there was data at
9 the National Marine Fishery Service which you felt was not
10 used and could have been used in this environmental impact
11 statement?

12 A Yes.

13 Q Will you specify what kind of data?

14 A These, for one example.

15 Q You are now referring to the list of
16 publications and the charts which you reproduced here?

17 A Yes. And that's by no means a complete list.

18 Q What is the rest of it?

19 A I can't tell you about the rest. The way I got
20 that list was simply consulting my own personal library. And
21 I didn't even do that exhaustively. I was just looking for
22 examples.

23 Q Well, you testified concerning computerized
24 data?

25 A I answered some questions about computerized

1
2 data, yes.

3 Q Do you know if such data exists?

4 A I know that the data exists in published form
5 that were not consulted. Or if they were, they were not
6 mentioned here or not used. I know that data exists which
7 have not been analyzed yet.

8 That is only natural because there is a time lag
9 from collecting data to analyzing it and publishing it.

10 Q Well, do you know whether or not all of the
11 data which is acquired by the National Marine Fishery Service
12 is ever analyzed?

13 A I am afraid I've got to make an honest statement
14 of fact. Sometimes it never is.

15 Q And this data which -- some of this data which
16 you find lacking in the environmental impact statement, is
17 it possible that some of this data is in this unanalyzed form?

18 A No. I am not referring to that. Because data
19 that have not been analyzed and have not been published, your
20 people couldn't possibly have been expected to get access to
21 those and analyze them in the time scale of your study. No,
22 I am not being that stringent in my criticism.

23 Q So when you were talking about retrievable
24 computerized analysis, an analysis could be done quickly on
25 this data, it was not your intention to testify that this data

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16 1
2 should have been included in the environmental impact
3 statement.

4 A Well, it was Mr. Like's intent. I don't know
5 what his intent was. I was simply answering questions that
6 Mr. Like was putting to me.

7 MR. JENSEN: Just one moment.

8 Q Now, you testified concerning the program
9 decision option document for sale number 40?

10 A Yes.

11 Q And you cited an inadequacy in that document at
12 page 13 concerning sport fishery; is that correct?

13 A I'll have to look at that and see.

14 Q Yes.

15 A Now, I looked at Mr. Like's document. I think
16 this -- oh, these pages aren't numbered.

17 Yes. Here it is.

18 Q Is there any difference between this document
19 and --

20 A No. They are the same. They are the same.
21 At least, that paragraph is the same.

22 Q Would you read the entire paragraph, please.

23 A It's headed, "Fishing Interests."

24 "Conflicts with the fishing industry would
25 result primarily from the removal of fishing grounds by

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platform placement and bottom obstructions which could damage fishing gear, or oil spills which could reduce the quantity or quality of fish catch. It is estimated that a maximum of 810 to 3,240 acres could be removed from fishing at any time during the exploration phase, leveling off to a maximum of 1,000 acres during production operations. Because there are no total catch data available for the mid-Atlantic on a specific area basis --"

I don't know what that means. I don't think it's correct.

"-- the impacts on fish populations resulting from oil and gas development are not quantifiable at this time. It is unlikely that sport fishing will be affected at all from activity associated with the proposed sale. Since the majority of all sports fishing takes place near shore, the only enhancement afforded by platforms as artificial reefs will occur to the very small segment of the population which fishes for large game fish at the edge of the Continental shelf or at submarine canyon heads."

Q I think you testified that you disagreed with the statement that sport fishing would not likely be affected at all?

A Yes. Because this statement ignores one very important thing. And that is that these species migrate, and

1
2 that the species that are caught in the sea for sport move
3 in shore, offshore north and south with the seasons, and so
4 they could be affected if there were any -- if there were any
5 accidents out here which could damage the fishery resource.
6 It would affect sport fishing.

7 Q Doesn't it state in the Environmental Impact
8 Statement that such things could occur?

9 A In other places, yes. In the Environmental
10 Impact Statement, yes, it does.

11 Q I ask you to read that again to yourself
12 carefully, because I think if you read that carefully you
13 will observe that that sentence refers to the following
14 sentence which discusses whether or not sport fishing will be
15 enhanced as a result of putting these platforms in the mid-
16 Atlantic Ocean.

17 A Well, that -- yes. Taking it out of context,
18 it does. But I will remind you that this paragraph begins
19 with the words, "conflict with the fishing industry."

20 Q But --

21 A That's the opening.

22 Q But isn't it true, Doctor, that what that
23 statement in fact refers to is that there is little likelihood
24 that these platforms, because of where they're going to be
25 located so many miles off shore, are going to enhance sport

1
2 fishing in the way they have done in other areas such as the
3 Gulf?

4 A If you're only talking about the platform and
5 nothing else, that is one thing. But I see at the top of the
6 page 12 -- the heading is, "Environmental," and includes
7 multiple use conflicts to me. Well, if you have a platform
8 there, you're going to be producing oil also. And if there is
9 an oil spill that does damage fishery resources, it certainly
10 is going to affect sport fishing.

11 Q All right. Let's turn to the Environmental
12 Impact Statement, Volume 2, Page 190.

13 A I've got it.

14 Q Now, on that page, the discussion beginning,
15 caption, "Sport Fisheries."

16 A Yes.

17 Q And right at the outset -- and I quote -- it
18 says:

19 "There are several possible situations when
20 sport fishing could nevertheless be impacted by OCS gas and
21 oil development."

22 And then it lists four items. Do you see that?

23 A Yes.

24 Q Doesn't the first item refer to the possibility
25 that sport fishing opportunities might be increased as a

1
2 result of artificial reefs being created by the platform?

3 A Yes. I have no quarrel with that conclusion.

4 Q Aren't the other three -- withdrawn.

5 Do not the other three questions deal with the
6 possibility that fish population, sport fish populations are
7 going to be diminished possibly drastically by the possible
8 oil spill?

9 A Yes.

10 Q Excuse me. There are six altogether. So the
11 other five deal with the diminution or loss of sport fishing
12 activity; is that correct?

13 A Yes.

14 Q So that anybody reading this discussion of
15 sport fisheries here in the very first page would see a
16 catalogue, a list of at least five ways in which sport fishing
17 might be seriously damaged or a diminution as a result of
18 the OCS activities that are proposed?

19 A Yes.

20 Q Now, I don't want to hold you too closely to
21 what you testified to, Doctor, but I know you said this:

22 You testified that the information which is
23 presented on these charts that are arrayed around the
24 Courtroom could have been presented in a much more precise
25 way -- excuse me. I withdraw that.

1
2 What you testified to was that the information
3 in the EIS, that is, concerning this subject could have been
4 presented in a much more precise way such as you have done on
5 your charts?

6 A Yes. I was referring -- I was comparing it,
7 then, to that Chart Number 4. I've forgotten the title on it.

8 Q Well, Doctor, I -- the chart number 4?

9 A Yes.

10 Q That contains data for a wide variety of fishes;
11 is that not true?

12 A Very generalized data, yes.

13 Q And it contains markings on the charts to
14 indicate where those fish are or where they range?

15 A Not really. Because it's only done in a few
16 little places on the chart. You see, these charts show
17 variations in numbers for the whole area. That chart to me
18 as a scientist contains virtually no information. No useful
19 information for decision making.

20 Q Well, I have difficulty understanding how all
21 of these charts can be more precise than this document. I
22 mean if we are talking about precision, wouldn't it be fair
23 to say that this document, whatever your feelings are about
24 the document, are more -- it is a more precise document than
25 these twenty charts that you have?

1
2 A No.

3 MR. BIALIK: Will you note the exhibit number of
4 that.

5 THE WITNESS: It's part of B4-4.

6 MR. JENSEN: Visual 4. It's entitled, Vegetation
7 Coastal Zone and Offshore Fisheries, Visual Number 4.

8 Q I will ask you to review that for a moment.

9 A I reviewed it in great detail many times. I
10 really can't get much information from it.

11 Q Doesn't the document contain a list of the
12 major species of fish to be found?

13 THE COURT: Excuse me. It's clear now. The
14 map is clear enough. I must say I agree with the
15 doctor. I have looked at the chart, and the chart
16 doesn't compare to the kind of information he has on
17 these other charts. I was curious about it because I
18 wanted to see where the fish were that I looked for
19 for many years. And you can't tell anything from your
20 chart. You can tell it from the doctor's.

21 All right. Let's move on to something else.

22 (Continued next page.)
23
24
25

11

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1
2 THE WITNESS: Oh, no, building of the
3 platforms doesn't create a problem in my mind at
4 all.

5 THE COURT: All right, so the building of
6 the platforms is out as a substantial factor. And
7 I suppose the same thing is really true of the
8 pipelines, even if they run four pipelines to the
9 shore.

10 THE WITNESS: Well, the pipelines create
11 some different kinds of problems because they
12 have got to go across the wetlands and that --

13 THE COURT: Yes, but assuming there
14 isn't any great destruction of wetlands.

15 THE WITNESS: Yes, the -- what damage
16 there is will be reparable.

17 THE COURT: So what we are talking about
18 is oil spillage and its impact, aren't we?

19 THE WITNESS: That's really the thing that
20 I worry about, your Honor.

21 THE COURT: We don't know how much oil
22 spillage there is going to be.

23 THE WITNESS: No.

24 THE COURT: We don't know what periods of
25 the year it's going to occur in if it occurs at all.

12

McHugh

THE WITNESS: No.

THE COURT: We don't know what the impact is going to be if it occurs.

THE WITNESS: That's right.

THE COURT: So when we get all finished with the available data, what more could you say than the fact that we don't know?

THE WITNESS: Except that in -- in my mind, your Honor, if we knew more about the effects on the organisms we could make more intelligent judgments as to the decision between -- to extract and not to extract.

THE COURT: Well, I know that's always true, if we had more information we might make more accurate judgments but the Secretary has to make that practical decision based on data now available.

THE WITNESS: Of course.

THE COURT: So it doesn't -- with all due respect, it doesn't seem to me this helps very much. I mean an average intelligent citizen who has some general knowledge, as I suppose the Secretary of Interior should, of this general situation, is not going to be helped very much by

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McHugh

1 all of this unless he is willing to wait for
2 an indefinite number of years for the effect
3 of this research, which may or may not be useful,
4 and it is going to be very, very difficult to
5 conduct.

6
7 How do you conduct the effect of these
8 hydrocarbons in an open sea with drifting organisms
9 and the like?

10 THE WITNESS: Oh, I haven't really thought
11 very much about that but one way to do it --
12 and it might be totally impracticable -- would
13 be to put a great big plastic bag out there and
14 spill the oil into that, a big enough one so that
15 it would be a realistic chunk of the ocean, you
16 sea.

17 THE COURT: But even that, the experiment
18 itself prevents currents from going in and out.

19 THE WITNESS: Yes.

20 THE COURT: And dispersal and everything
21 else.

22 THE WITNESS: Or you might just let the
23 thing drift and put it out far enough so that the
24 chances of getting onto shore are -- are minimal.

25 But your -- it is correct what you say,

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1 except that all other things being equal, it
2 appeals to me to -- to separate the two parts
3 of the process.
4

5 THE COURT: Yes.

6 THE WITNESS: Because the more information
7 you have when you make your final decision on that
8 second question, the better able to -- the better
9 will the Secretary be able to make a -- a good
10 educated guess.

11 THE COURT: Possibly that's so. He may
12 be more confused by the additional data, which
13 may be conflicting.

14 THE WITNESS: Well, that often happens.
15 I tell my students sometimes if you have got two
16 points on the curve you better not get any more
17 points because you can draw a straight line between
18 those two and if you draw another point it's not
19 going to fit the hypothesis.

20 THE COURT: And for practical decision-
21 making you may be better off with a simple curve.

22 THE WITNESS: I don't think so because it
23 may lead you to quite erroneous conclusions.

24 THE COURT: You have been very helpful,
25 thank you very much.

AFTERNOON SESSION

2:30 o'clock p.m.

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2
3 THE CLERK: Resume of Stephen Moore marked as
4 Plaintiff's Exhibit 56 for identification.

5 THE COURT: At the end of today's session I want
6 counsel to indicate to me how long they think these
7 hearings are going to continue. I am not going to
8 cut any of you off. I am going to give you all the
9 time you feel is reasonable and that you need. And
10 that applies to plaintiffs and defendants.

11 On the other hand, I am, as you understand,
12 scheduled to start a vacation Monday. My entire staff
13 has made plans in accordance with my own plans. I am
14 perfectly willing to forego my vacation, but I have
15 to know what to expect so that I can arrange for
16 temporary assistance while my regular staff is away
17 beginning Monday.

18 So if you could consult with each other and give
19 me an estimate, I would appreciate it.

20 All right, proceed.

21 S T E P H E N F . M O O R E , called as a witness, being
22 duly sworn, by the Clerk of the Court, testified as
23 follows:

24 (Continued next page.)
25

jb/ss

lpml

Moore

DIRECT EXAMINATION

BY MR. LIKE:

Q Professor Moore, please state your present employment?

A I am currently an Associate Professor in the Department of Civil Engineering at the Massachusetts Institute of Technology in Cambridge, Massachusetts.

Q I show you a five-page document, Plaintiff's Exhibit 56 for identification, and I ask you whether this exhibit accurately sets forth your biographical resume and published papers and technical report?

A Yes, it does.

MR. LIKE: I offer it in evidence.

THE COURT: Admitted.

THE CLERK: So marked.

MR. LIKE: Thank you.

Q Please summarize that portion of your professional history which concerns studies concerning oil or investigation of research concerning oil and the environment?

A Well, during the past five years, although the studies are referred to as actually having taken place, from the period approximately 1972 through 1974 into '75, involve a number of studies for the -- with regard to the potential impacts of petroleum related activities. Specifically, I was

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the principal investigator on an analysis of the potential impact of supertanker ports at Machias Bay, Maine.

I was a principal investigator on a study of the potential oil spill impacts and other related activities associated with petroleum development on the Georgia banks in the North Atlantic region.

I was principal investigator on the study carried out for the Council of Environmental Quality with regard to the potential biological oil discharge in the Atlantic region and Gulf of Alaska. And I was a participant in the National Academy of Science Workshop on the input data and effects of petroleum in marine environment.

And finally, I was a principal investigator on the study of the potential biological effect of hypothetical oil discharge on the south shore coastal region of Long Island, New York.

Q Please tell us what aspects of analysis of the aquatic environment you have been primarily concerned with technically and from a standpoint of modeling or systems analyst?

A Well, my interests are somewhat -- I would call a relatively new hybrid in the area of ecological analysis. My interest combine engineering and systems ecology. And I am primarily concerned with the analysis and modeling of

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ecological systems for the purpose of assessing and monitoring environmental impacts. In some regard it's been concerned with physical processes in aquatic environment and is by and large concerned with the ecological aspects of aquatic environment.

Q What is a systems analyst, if you can give it to us briefly from the standpoint of model impacts on the aquatic environment.

A Well, a systems analyst attempts to try to bring together in a coherent and consistent framework all of the elements of a particular problem, the physical, chemical and biological elements of an environmental problem and formulate a synthesis which presents a whole listing of representations of the problem. So it involves trying to grapple with all dimensions of a particular -- all of the dimensions of a particular activity.

Q Does a systems analyst use in any particular aspect of technology assessments that you are aware of besides modeling the aquatic environment?

A Systems analysts are -- there are systems analysts in economics. There are systems analysts in decision making theory. It can be viewed as a very broad blanket approach to any complex problem where the attempt is to try to develop synthesis of complex, uncertain situations into

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coherent answers.

Q What would the relation be between a systems analyst and the decision-making concerning the OCS?

A Well, one thought that comes to mind about that is that in a systems analyst approach, it would attempt to bring -- to lay out the alternatives which exist in the particular situation, and would try to lay out as clearly as possible what the potential impacts might be. But then would also attempt to address the question of how good or how well known -- I don't like the word good in that context.

How well known or how uncertain are those particular assessments.

In order to make an informed decision, it is necessary to not only have a forecast of what might happen, but also how good that forecast is. And so a systems analyst does provide some methodology, sometimes a framework, a way of looking at the trouble, some approach which tries to get at some of the difficult problems in these complex and uncertain situations.

Q Doctor, from the prospective of a systems analyst concerned with the aquatic environment, have you reviewed the final environmental impact statement of lease sale 407

A Yes. I would like to elaborate because I viewed

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it not as a systems analyst, but in particular from the point of view of a systems ecologist. I think that is important. I would like to add that additional element.

Q Tell us, please, how you went about the task of analyzing the final environmental statement for sale 40 and indicate what aspects of that document you reviewed for accuracy, and what your conclusions were and the basis for those conclusions?

A Well, although I have been through the whole document, most of my energy in the review was focused on the problem of biological and ecological impact -- assessment of biological and ecological impacts. And that involved reviewing descriptions of the existing environment, and then assessing the methodology which we used to arrive at conclusions about what the impacts of various proposed activities would be. The approach I took was to try to identify generic characteristics or aspects of the impact statement that may or may not be adequate or inadequate. And as a result of going through that analysis, I was focusing on the question of are there inadequacies. That was the point of view I was taking. I was looking to see if I felt there were inadequacies. And I identified five areas in the context of methodology in environmental impact ecology that I felt was not fully treated and not adequately leading to sufficient

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information. And I have just listed these. And then we can deal with them.

Q All right. Will you list the five aspects of the documents which you found inadequate?

A Well, first of all, I was unable to determine what the basis for compiling and synthesizing and evaluating the ecological data base for the impact data base that was inadequately presented, as far as I could determine.

I felt the treatment of uncertainty in the data and the treatment of uncertainty in the resulting analysis was inadequately treated.

(Continued next page.)

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THE COURT: Excuse me. Is that your second point?

THE WITNESS: Second point.

THE COURT: Would you so indicate when you come to a new point?

THE WITNESS: The third point has to do with the methodology used for actually assessing the biological impacts, and I found this to be inadequate.

The fourth point has to do with the inadequacies with regard to the analysis of the movement impacts of near-shore oil spills.

And the last point, the fifth point, has to do with the methodology for summarizing and evaluating the overall risks.

Now, I would like to add to that all of these points in one way or another have to do with the methodology of the impact analysis. So they are in some sense sublets and related to each other. I tried to pick them out in this particular way because it seems like a categorization and useful way to me.

Q Let's start, please, with your first category, and that you testified is an inadequacy in the basis for compiling, synthesizing and evaluating the ecology data base or impact statement.

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1
2 What did you find--

3 MR. LIKE: Just one moment.

4 Q Again, my question is, What did you find
5 inadequate as to the impact statement basis for compiling,
6 synthesizing and evaluating the ecological data base for
7 impact analysis?

8 A I think it's readily apparent that if we were
9 gather every piece of data that exists with regard to
10 this mid-Atlantic Region, and offshore region and near-
11 shore region, we would literally have volumes and volumes
12 of information, so that any attempt to try to select out
13 and bring together relevant pieces of data is going to
14 naturally result in some data not particularly addressed
15 and some data being focused on.

16 And my concern is that if in particular
17 looking, for instance, at Volume I of the impact statement,
18 and the section on Description of Existing Environment, that
19 if I look at the data that is there, there are innumerable
20 questions that come to my mind as to consider a particular
21 piece of data was included, why other pieces of data were
22 excluded, what is the framework for bringing the various
23 pieces of data together.

24 There simply seems to be what I would call
25 an ad hoc literature review. Certain things are included

1
2 for no apparent reason; other things are not.

3 Then there doesn't seem to be any assessment
4 of the adequacy of the data that is provided.

5 Now, this gets to my second point. So I will
6 possibly hold off on that for a moment.

7 Specifically with regard to ecological data,
8 the biological community approach that is presented in the
9 beginnings of a framework, the difficulty is that we are
10 talking about a particular activity. We are talking about
11 offshore development. We are talking about platforms,
12 pipelines, oil spills, and so on. These things bring a
13 focus to the problem and could provide criteria for deciding
14 what data to include and what not to include, what things
15 are relevant to this particular problem in this particular
16 region.

17 An example that comes to my mind is, for
18 instance, as near as I could determine in the water quality
19 section, which is an important ecological dimension, I was
20 unable to find any reference to the existence or lack
21 thereof of hydro -- ambient hydrocarbons for the Middle
22 Atlantic Region offshore and onshore.

23 Now, it is clear, if one wants to determine
24 what the potential increases of hydrocarbons consequences
25 might be, there needs to be data presented and provided
with regard to what the existing ambient levels are.

Moore-direct/Like

Now, if that data doesn't exist, then that is a specific parameter which seems to me appropriate to bring out and say, "This does not exist at this time." I understand that the ongoing environmental baseline study attempts to get at that, but that is neither here nor there.

The point is that in the analysis, the methodology used, this area is not treated.

On the other hand, there is -- rather, I'd say, considerable amount of energy or space in the impact statement provided to the question of nitrates and phosphates concentration in the near and offshore regions.

Now, nitrate and phosphate concentrations are potentially important water quality variables that govern particularly plankton growth.

The question here is why include those nitrate and phosphate concentrations in this particular study about oil impacts?

Yes, phosphate and nitrate help describe the existing environment, but there is no clear indication of why this piece of data and not others. That's just an example of that particular kind of situation.

Q Does the final environmental impact statement contain an explicit framework for making the type of impact assessment that you believe ought to be made?

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2 A In regard to-- I am not sure about-- What
3 do you mean by "framework"? Overall framework or in terms
4 of this -- a particular area of what data shall we include
5 or not include, and then identify what data we don't have
6 and need to get.

7 Q In terms of the latter.

8 A Nothing explicit. And I infer from reading
9 the document that it -- that it's a general literature
10 review, an exercist of what data seems to exist without any
11 clear establishment of a framework. I don't find a frame-
12 work other than an ad hoc literature review. That could
13 be a framework.

14 Q Is the approach that is used in the final
15 environmental impact statement sufficient for deciding a
16 question such as what environmental variables are essential
17 for predicting oil spill impacts?

18 A Could you ask that again?

19 Q Yes. I am asking whether or not the approach,
20 the biological community approach which is used, whether
21 it in and of itself is sufficient for deciding the question
22 like what environmental variables are essential for predict-
23 ing oil spill impacts.

24 A Well, not in and of itself. It would be a
25 part of an overall framework, but it is necessary again to

1
2 look at the question of, if we are going to talk specifically
3 about the oil spill aspect of it, which, in my mind, is a
4 key issue, what are the characteristics of petroleum sub-
5 stances and their interreactions with the environment, and
6 what elements to focus on biologically as a result.

7 The biological community approach can provide
8 a way to, if you will, model the existing environment to
9 represent the existing environment. We can think about the
10 plankton and planctos as a community and so on. But
11 we have to go quite a way beyond that to provide a fully
12 systematic framework for the problem of impact.

13 Q Well, I am interested in knowing what types
14 of questions cannot be decided by simply using a biological
15 community approach.

16 A Well--

17 Q For example, does there have to be some level
18 of spatial or temporal resolution?

19 A Okay. Well, the question there is, we can
20 define biological community plankton, but then the ques-
21 tion is, do we need to understand the plankton at the
22 level of scale, spatial scale of kilometers, 10's of
23 kilometers, 100's of kilometers, and so on?

24 Temporarily is seasonal variation sufficient?
25 Is variation on the order of decades? Is variation on

Moore-direct/Lake

the order of 24 hours enough?

These kinds of questions which would help decide what level of data is needed and what data is needed, and then is it available or not? There's no mention of that kind of framework.

Another point that comes to mind is the question of life histories of the particular organisms that one would find in these various communities. What life history parameters do we need to consider to attempt to get at the question of what are the biological effects and what are the effects of an oil spill on a particular population or on a community?

If we look at biological and ecological systems, we can view the problem as having several levels of organization. Subcellular, or cell population communities. Each level being related to the level before it, and the level above it, in that hierarchy. And we can ask questions, biological questions. We can pose questions at each level in terms of what is important biologically at that level in order to assess the problem of oil spills.

And biologically, I don't find any systematic bringing together of that kind of question in the presentation of the impact analysis in that kind of framework. The result being that when a particular piece of data is pre-

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2
3 sented it is not clear that it has any relevance to this
4 problem and there is no way other than the reader to look
5 at it, and if one has enough background, these questions
6 may occur.

7 If a person doesn't have the background, then
8 simply takes it as these must be the important data. They
9 are the ones that are presented.

10 Q Are you saying, then, that the document
11 lacks sufficient criteria for determining what data should
12 be included and what data should be excluded?

13 A Yes, I think I would agree with that state-
14 ment.

15 Q You identified-- Is that all that you want
16 to comment on with respect to the lack of an explicit
17 framework, your first category of adequacy?

18 A I think it covers-- Let me look at my notes
19 for a minute and see if there is anything that comes to
20 mind. I think that sufficiently covers that issue.

21 Q On the second area of inadequacy, which you
22 identified as lying in the area of treatment of data and
23 analysis uncertainties, what is the basis for your opinion
24 as to inadequacies in that category?

25 A Well, the statement has numerous remarks in
it. We could identify them specifically, but I think they

1
2 have been alluded to in previous testimony. That is, about
3 gaps that exist in the data, incompleteness and so on, and
4 this has also been testified to and is going to always exist.
5 We are never going to have every last piece of data. The
6 problem--

7
8 The concern that I have is that uncertainty
9 is in and of itself an essential piece of information for
10 an informed decision-maker. It is not just to say, "This
11 data doesn't exist," but to say, "This data doesn't exist,
12 and if we go" -- if we proceed ahead without this informa-
13 tion, here are the risks that are involved from an environ-
14 mental point of view:

15 Now, again I would never ask of a document
16 or the preparer of a document that they quantify and lay
17 out a very involved decision analysis of uncertainty. There
18 are frameworks, though, to begin with in that area which
19 begin to get at this problem.

20 I might-- Well, maybe a useful way to break
21 this down is to look at the question of uncertainties in
22 the data itself.

23 THE COURT: I am sorry; go ahead.

24 THE WITNESS: I think a useful way to look
25 at this is to talk about the-- to break down the
question of uncertainty into the question of the

1
2 question of chronic sublethal effects or effects
3 associated with potential effects associated with
4 chronic lethal discharge of petroleum.

5 Now, in numerous places in -- I think mostly
6 in Volume II of the impact statement, there are
7 clear indications made that this problem exists,
8 clearly identified as a potential problem. And the
9 fact that we don't know very much about it is also
10 made clear.

11 What I feel is incomplete about the analysis
12 is that there is no attempt to go beyond that point
13 and inform potential decisionmakers using this docu-
14 ment what the risk is of going ahead and making a
15 decision to proceed with this action when there is
16 this major critical area which is simply unknown, and
17 it is not entirely unknown. We know that there are
18 potential carcinogenic provisions, for example. Okay.

19 We can lay out, I think more clearly than is
20 done in this analysis what the implication of pro-
21 ceeding under this high level of uncertainties are.
22 So that's one area.

23 Another kind of problem -- there's a different
24 kind of problem than that one, but it relates to
25 uncertainty -- is statements. This one I'll be very

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2
3 specific about, has to do with the question of
4 World War II tankers' accidents, and in Volume II,
5 page 615 -- I'd better make sure I've got that right.
6 Yes. On page 615 of Volume I with regard to impact
7 of oil spills that may have occurred following acci-
8 dents during World War II, the first full sentence
9 on that page says,

10 "There have been no efforts to determine the
11 long-term effects of these spills," which, to my
12 knowledge, is an accurate statement.

13 However, in Volume II -- and I am stuck again
14 because I don't have Volume II, I've got two of
15 Volume III here -- I believe on page 127 in Volume
16 II -- in the first full paragraph on page 127 of
17 Volume II, the statement is made,

18 "Continuous oil spills occurred in the Mid-
19 Atlantic Region during World War II. No irreversible
20 or permanent damage to the planktonic community has
21 been reported."

22 Now, in light of the fact that no attempt
23 has ever been made to look for long-term effects,
24 it is not surprising that there haven't been any
25 reported, and this is, again, what I put under the
heading of uncertainty. There is no information

1
2 about long-term effects, and yet there is an attempt
3 to draw what I believe is a more certain conclusion
4 than is possible from the data.

5 So this is an example of carrying data that
6 is provided to a conclusion that I wouldn't agree with.

7 I am certain-- Well, the fact that there have
8 been -- there's been no damage reported, I agree with.
9 That's an accurate statement, but what I am concerned
10 with is that the impression has been that it's been
11 looked for, and it hasn't been looked for.

12 Another example -- and this is one I think
13 is more critical than the other, which is probably
14 a minor one, but is a concrete one, if I can get
15 my hands on it -- has to do with conclusions which
16 are drawn with regard to impacts.

17 And again in Volume II, on page 122 -- let's
18 see, beginning about the third way down the page, in
19 the middle of that paragraph. This is with regard
20 to the effects of oil on plankton, but it is speci-
21 fically concerned with possible effects on fish and
22 ethnic population, and I will quote from the document.

23 "Damage to the year class strength of certain
24 species of fish could occur as well as with popula-
25 tion of ventric organisms. However, a massive spill

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3 Q Well, you are saying, if I understand you
4 correctly, you are giving an example of what you consider
5 to be the inadequate treatment of uncertainty in the final
6 environmental statement.

7 What other important examples are you aware
8 of? Not minor matters, but are there any examples that you
9 regard as critical to the process of impact assessment
10 where the treatment of uncertainty has been inadequate?

11 A Well, I hesitate to qualify this, that I am--
12 Let me think about the statement I was about to make.

13 My impression from reading the document --
14 and I may be generalizing too much, so I am a little hesi-
15 tant about this, but I can find it in -- I am sure in quite
16 a few examples.

17 Virtually in all the areas drawing conclusions
18 about effects, there is nothing included in those conclusive
19 statements about how much will be uncertainty. Some measure
20 of uncertainty, be it qualitative or quantitative. The
21 document certainly has statements about the fact that we
22 have incomplete data and data gaps and lack of information
23 and so on. But it is not carried through to the final
24 analysis.

25 What is carried through to the final analysis
are qualitative conclusions which tend not to be substan-

1
2 tiated and documented.

3 So there is no way of knowing how accurate
4 they are. So that what I am trying to get at -- and we --
5 if you want to take -- if you want me to do this, I am
6 quite willing to look at each of those conclusion
7 sections on the biological effects on biological communi-
8 ties and assess each one individually.

9 Q Well, I would like, if you can, to give us
10 a few concrete examples that illustrate your thesis with-
11 out going section by section through the document.

12 A Well, another-- Let me see. I am looking
13 in Volume II. I think the statement I just read came from--
14 What did I say? page 122.

15 I will just proceed on from that point.

16 On page 124, at the bottom of the page there,
17 drawing a conclusion regarding the impact of this proposal
18 on the vital plankton of the mid-Atlantic, the first
19 sentence says:

20 "The studies mentioned previously indicate
21 that the planktonic populations of the mid-Atlantic
22 area will be able to withstand the impacts of a
23 major oil spill and recover fairly rapidly."

24 Now, again, here's the question of "fairly
25 rapidly." It may be that that is the only -- that's the
finest degree of detail and specificity that can be

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for assessing biological impacts of oil spills.

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A Right. I didn't get a specific question. I

4

can just proceed to -- to describe my concern--

5

Q Yes, give us the basis for your conclusions

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that the methodology for assessing biological impacts of

7

oil spills is inadequate?

8

A Well, I have articulated some of this already.

9

As I review this document I have not --

10

well, let me back up for a moment:

11

What I -- what I think is important in

12

assessing the impacts of oil spills, some of the key factors

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in this problem are what is the probability of a spill

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occurring, where is that spill located, where has the

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spill moved to, what's the physical and chemical fate of

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oil in the environment and then what are the biological

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responses to that substance, and the biological problem --

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there is two subsets to that one, there is the question of

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what are the initial impacts, how much mortality takes

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place, what percentage of organisms in the affected areas

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are killed, and then what's the recovery process look

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like, recovery both in terms of chemic -- the removal of

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the chemical substance from the environment and then sub-

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sequent to that recovery biologically, the return of the

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population to a -- what I will in quotations call a

Direct-Moore

dynamic equilibrium return to the state in which the environment existed prior to the spill.

Now, in one way or another each of those elements of the problem are -- are addressed in the impact statement, so it's not that those basic categories are not dealt with.

And I particularly want -- my concern is that when we look at the biological assessment itself -- it -- there is no framework layed out that I can find.

What I -- the framwork in quotation marks that I -- that I find there is what I call an ad hoc -- there is a literature review and then an ad hoc suggestion of general areas of -- of possible biological impact.

There is a lack of specificity and a lack of quantitification where the methods exist and are reported in the literature for being more detailed, more quantitative.

And the problem simply isn't -- there does not seem to be an attempt to push through this problem further to create a more systematic framework for bringing all the pieces together and synthesizing the problem.

The biological communities are discussed and some of the literature with regard to oil spills and the and the effects of oil on -- on organisms is discussed, but it's -- it's never -- there is really no guidance on --

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1
2 beyond identifying what some of the general problems are.
3 There is no analysis of -- for -- of what would be the
4 measurable or quantified impacts, there is really -- there
5 is relatively little interpretation.

6 (Continued on the next page.)
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2. Moore - direct

in the corridor when he indicated he has approximately a week's worth of testimony on what I would refer to anyway as policy issues and anti-competitive issues that we intend to make argument on the relevancy of those issues.

If the Court should agree with that argument the time frame would come down.

THE COURT: I understand.

Proceed.

MR. LIKE: What I would refer to as NEPA issues.

THE COURT: All right, thank you.

BY MR. LIKE:

Q I take it, Professor Moore, that you are testifying, are you not, that the final environmental statement does not contain an analysis of hypothetical near-shore spillage trajectories such as we have done for offshore spills; correct?

A That's correct.

Q Could you, referring to the exhibits that are in evidence, namely the ones showing the distribution of various fisheries, indicate how the data depicted on the charts could be used in doing a hypothetical near-shore spill scenario?

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2 A Let me get addressed again. Okay. Well,
3 I think that would possibly help clarify the point I was
4 trying to make before the break, so if I can refer to --
5 this is Exhibit 28 -- as an example, if we -- we are talking
6 about near-shore spills, and just to -- for the sake of
7 argument let me hypothesize a pipeline from the tract
8 regions to say the New Jersey coast somewhere, and I will
9 without -- just arbitrarily draw a straight line here towards
10 Monmouth. And the kind of analysis I was speaking of would
11 attempt then to say:

12 "Well, we have a hypothetical pipeline
13 corridor area, it's one which is one of the possible ones
14 laid out in the analysis," for example. Then we could
15 take along that pipeline route and postulate hypothetical
16 events. So we might at some point near the shore pose
17 the question: "Well what if the spill of a certain
18 magnitude occurs at a certain time of the year at some
19 specific location?"

20 And then using the kinds of models, simulation
21 models with appropriate changes to deal with coastal
22 situations, attempt to do a simulation which tracks the
23 spill and shows where that oil might impact.

24 This kind of analysis I believe, near-shore
25 kind of spill analysis, an attempt was made to do that in

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the work by Stewart & Devanney, 4 CEQ.

What this would do, it would then allow us to say -- to take a look and if for all the important populations we are concerned with -- in this case we are looking just at the surf clam so we can just focus on that particular one -- but we would be able to address the question then of is there any significant likelihood that the fishing grounds for this important shellfish are in fact threatened by albeit hypothetical but examples of specific scenarios of the kind of things we would expect to occur.

And to carry that further, it would be possible to say, map the various coastal habitats, sand beaches, eelgrass areas, salt marshes, salt ponds, rocky shores, if any exist, although I am not aware of any in this region -- map these habitats say on a spacial scale, let's pick maybe -- pick arbitrarily for the purpose of discussion say every mile, make that kind of a mapping of the habitats along this coastline, then superimpose the results of a -- of a spill simulation, and we could begin to get some idea of specifically what habitats, what wildlife regions are impacted.

We could get an idea of the -- a better idea, a closer handle, a more quantitative handle, a more specific handle on what the potential impacts might be.

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That -- so this kind of mapping is exactly appropriate to being used in some sort of an overlay analysis in which you take spill trajectories, hypothetical spill trajectories and lay them -- the results of them over this kind of analysis and you can look at both overlays of probabilities and overlays of actual distribution of oil and begin to lay out the ranges of possibilities in some specific and quantitative form.

Q Have you, in your previous scientific investigations, participated in any mapping of the habitats and critical areas along the south shore of Long Island?

A Yes, in the-- one of the studies I referred to in the beginning of my testimony that I have been involved, in we prepared, I believe it's four maps showing various habitats and other biological groups which we felt were important and mapped these on maps of the south shore of Long Island.

Q I show you Plaintiff's Exhibit 49 through 52 and ask you whether the exhibits depict the areas that you mapped?

A Yes, this -- there should be four maps here. Yes, these are the -- these are the four maps. The one marked Exhibit 49 deals with the distribution of habitats along the southern coast of Long Island, specific high

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Moore - direct

energy beach eelgrass, salt marsh, mussel beds, rocky shores, protected sand bottom and protected mud bottom.

Additionally, it shows a -- what's called pelagic coastal and pelagic estuarine environment, and these -- each of these habitats are then mapped along the south shore region.

THE COURT: All right, mark then in evidence, please.

THE CLERK: Plaintiff's Exhibits 49 for identification, marked in evidence.

(So marked.)

Q Before you proceed to the next exhibit, is this the type of mapping, referring to 49 in evidence, that you're saying: should be part of the data base for a near-spill trajectory information analysis for the New Jersey coast?

A It's an example of one way to go about the problem, yes.

Q Would you continue with the next exhibit, please.

A The next exhibit is marked No. 50. This again is mapping in the same region, the south coast of Long Island, and in this case its major preservation areas along the coast according to government jurisdiction,

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county, state, federal and local and private.

The last category is a combined category, local and private together.

And the next map is marked 51. This shows the distribution of major water-fowl feeding and nesting areas in the south coast -- southern coast of Long Island, and according to two categories, outstanding value and high value.

THE CLERK: Plaintiff's Exhibit 51 is marked in evidence.

(So marked.)

THE WITNESS: The fourth map is No. 52. This is distribution of the major shellfish beds on the southern coast of Long Island, and it includes the bay scallop, oyster, surf clam and the surf clam is broken down according to high production and low production. Softshell clam, hard clam and the hard clam category is also broken down according to high production and low production.

THE CLERK: Plaintiff's Exhibit 52 for identification, is marked in evidence.

(So marked.)

BY MR. LIKE:

Q Professor Moore, I show you Plaintiff's Exhibit

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Moore direct

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2 53 for identification and ask you whether this represents
3 a composite drawn to a different scale of the same
4 habitat and critical areas that were depicted on the
5 exhibits which I have just marked in evidence?

6 A Yes. I don't believe this was actually
7 prepared by us but it is the same information and I have
8 looked at it and it appears to reproduce the same
9 distributions.

10 THE COURT: Mark it.

11 THE CLERK: Plaintiff's Exhibit 53 for
12 identification, marked in evidence.

13 (So marked.)

14 BY MR. LIKE:

15 Q Do you have any examples that you would
16 care to comment on in the final environmental statement
17 as to the conclusions drawn with respect to the near-shore
18 impacts?

19 A Yes, I do, and I am just -- the question
20 of near-shore spills is -- is discussed in several points
21 in the statement. The problem is not that it's not
22 identified; my concern is that it would be possible using
23 the kind of analysis I have described or some other one
24 which I am sure could be developed to try to quantify and
25 provide a clear interpretation of what the impacts might be.

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Moore - direct

Let's see, for example on page -- in Vol. 2 Page 151 to 152, the -- there is a paragraph on those two pages starting at the bottom of Page 151 and going over to Page 152 which describes the conclusions -- excuse me -- this is a summary of the possible impacts from the proposed sale under the category of "Impact on Fish."

Well, I won't read this whole thing. This particular statement concludes, "If such spills are extensive enough whole year classes of fish from affected spawning grounds could be decimated or even eliminated."

Well, in order to -- I mean yes that could happen. The question again is what's the -- what's the likelihood of that occurrence happening, what's the -- how extensive a spill would have to be -- what's a scenario that's extensive to create that kind of situation, what are the conditions that would cause that.

Let me go to another example because that one doesn't get quite the same -- quite what I had in mind.

In the discussion of impacts on -- on benthic organisms, benthic communities, Page 136, the first and second paragraphs describe the summary conclusions concerning impacts on the subtitled benthic communities. Near-shore areas have previously been shown to suffer the

1
2 greatest losses. If a spill should occur as a result of
3 this proposed sale high mortalities can be expected.

4 This will especially be true for the more
5 extensive and exposed forms such as the epi-benthic
6 community. In previous spills involving crude oil mor-
7 talities were more apt to be due to smothering organisms
8 rather than direct toxicity.

9 The smothering of organisms is less likely
10 in open and dynamic areas. This especially applies to the
11 mid-Atlantic area where open beaches are prevalent. While
12 initial adverse impacts may be high in the spill site and
13 areas of spread, recovery is expected to occur in a short
14 time."

15 And then the -- then it goes on in the next
16 paragraph to say, "Geographic areas most susceptible would
17 be along tanker routes possibly into New York Harbor or
18 Delaware Bay and more remotely Chesapeake Bay and pipeline
19 route possibly into New York, New Jersey, Delaware and
20 Maryland."

21 And then it concludes, "For a discussion of
22 possible and probable pipeline occasions refer to
23 Section so-and-so."

24 Let me go back and -- having read all that --
25 and comment about it. This clearly identifies near-shore

1 spills as a potential problem. The kinds of questions
2 that occur to me about this analysis would be, what's the
3 likelihood that a very important resource such as
4 Chesapeake Bay is affected by a near-shore oil spill.
5 If we -- if we know the corridors even generally, it's
6 possible to -- to make some sort of spill simulation,
7 as was done for offshore spills, to get an idea of where
8 the oil might be transported if it's spilled at various
9 possible locations.
10

11 And this could lead to some measure of the
12 probability of spills impacting various regions of the
13 coastline.

14 Secondly, if the spill impacts a coastline,
15 how many miles of coastline are we talking about? Are we
16 talking about a spill that is a possible spill scenario
17 that would lead to an entire ciling of the entire
18 Chesapeake Bay or are we talking of something much more
19 limited than that?

20 How long would we expect these regions
21 to take for -- for recovery? And this is a question I have
22 talked about before. The statement indicates a short time.
23 The data that's available for various types of habitats
24 would indicate that five to ten years is -- is probably
25 a minimum time for recovery. And further analysis may be

12 Moore - direct

able to refine that.

Are there any unusual or special resource areas such as the kind of thing that we have mapped for the south coast of Long Island? For instance bird habitats. There are particular areas where certain species -- they use for -- particularly for breeding and nesting; are these in areas that are likely to be impacted along these coastal regions.

It would be possible to get a clearer handle on that if these kinds of resources were mapped and then these kind of overlays of spill probabilities and spill trajectories were made.

(continued next page.)

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WPA/JS

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2 Well, I think that -- that particular
3 example, all of those kinds -- those are -- those
4 questions I raised with respect to this particular
5 conclusion I don't find answered in this conclusion
6 and I think could be answered with a more adequate
7 methodology, and would provide a decision maker with
8 clearer information as to what the nature of near-
9 shore spill impacts might be.

10 And I think that pretty much addresses that
11 issue as far as I am concerned.

12 Q O.K. Now, I believe your last category of
13 inadequacy concerned the methodology for summarization and
14 evaluation of overall risks. What is the basis for your
15 opinion that that methodology was inadequate?

16 A Well, my concern here is that when I -- when
17 I read -- this is Section III-E and -- III-E, III-F and
18 III-G in the impact statement, and it consists of what is --
19 of a proximity evaluation, a proximity analysis and then a
20 summary risk analysis.

21 Now, according to the document -- and I'll read it
22 from this -- the proximity evaluation begins on page 353,
23 and it states under "Purpose", its purpose" -- it referring
24 to the proximity evaluation -- "is to provide the decision
25 maker with an environmental analysis of each tract regarding

1 possible risks which relate to them."

2 And then -- so that -- that's the intended purpose
3 of the analysis.
4

5 Then the analysis selects oil spills and structures
6 as the two measure categories of impact-producing factors.
7 However if then only looks at the question of off shore
8 oil spills and looks at the question of off shore oil spills
9 in terms of a proximity scale which is a function of the
10 distance of the tract to certain categories of so-called
11 resource factors.

12 So that what the proximity evaluation is is a scaling,
13 a creation of a scaling -- the proximity evaluation in
14 terms of oil spills is a scaling which is simply the distance
15 from the tract itself to these important resource factors.

16 Now, in my mind if this -- if this analysis purports
17 to lay out to a decision maker the possible risks associated
18 with each tract, to omit an analysis of near shore spills
19 in the section on oil spills simply makes it incomplete in
20 a very critical area, and the analysis in the end -- the
21 outcome of the analysis can't possibly reflect the possible
22 risks which relate to each tract.

23 And aside from questions that I -- that I have about
24 the proximity scale itself and the choice of resource
25 factors, there is no point in even going into those because

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3 by omitting the near shore spills from the analysis --
4 it simply leaves out a key potential risk area.

5 Now, in my mind the problem is compounded because
6 the proximity evaluation is then used to carry out a
7 summary risk analysis, and this begins on page 370.

8 Now, according to Section III-G, the summary risk
9 analysis among other things is -- is -- and I'll quote here --
10 "This section will attempt to analyze all the tracts which
11 are proposed for leasing according to their relative
12 potential degree of hazard to the environment."

13 Now again, this kind of -- potentially that's an
14 important element to provide for the decision maker. The
15 problem is that when I get down to the actual analysis of
16 relatively high hazard potential -- excuse me, of relative
17 potential degree of hazard to the environment, what is
18 actually done is that all tracts which have an oil spill
19 proximity value of .8 or greater for a limited set of the
20 resource factors which had been identified, it's assigned
21 a relatively high hazard potential.

22 Well, the -- the conclusion which is drawn in this
23 section on page 371 is the following: "None of the 154
24 tracts are considered to have a relatively high hazard
25 potential."

Well, given the omissions from the analysis, that

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2 near shore spills are not included, that fisheries are not
3 included, that subtitle Benthic communities are not
4 included, and that chronic low level discharges are not
5 included, that conclusion that none of the tracts have a
6 relatively high hazard potential is -- is probably
7 appropriate.

8 What -- what's happened here and what concerns me
9 is that if it's -- if it's a summary risk analysis and is
10 really going to try to give you the relative potential
11 degree of hazard for all of the tracts -- and the implication
12 is that it brings the various pieces together, but in fact
13 omits key pieces -- then the conclusion that's drawn, which
14 might be helpful -- it may well be the kind of section that
15 a decision maker would turn to to get a summary, overall
16 analysis of the whole thing, it's got key features missing,
17 and I simply see no useful purpose served by this risk
18 analysis.

19 It doesn't get at anything.

20 Q Did you find in the final environmental
21 statement any standards or criteria established by the
22 BLM for determining the environmental acceptability of
23 leasing and development of OCS areas?

24 A No, I didn't, and that was a problem which I
25 was -- I'm quite concerned about because one of the goals

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2 for the agency is to carry out an environment -- to make
3 environmentally acceptable decisions. The question is
4 what is environmentally acceptable, what are the -- if we
5 can't establish numerical, quantitative standards, at least
6 criteria could be laid out for what is the measure of
7 acceptability that's going to be used in deciding.

8 Without any such measures of acceptability it seems
9 to me the decision maker is going to be left up in the air
10 as to how to evaluate and assess such impacts.

11 Q Do you have any comments with respect to the
12 base line studies, so-called, and as to how they are
13 designed and their basis --

14 A Well, I haven't had an opportunity to review
15 the RFP and the proposal and so on. I have looked through
16 the actual contract describing a study, and -- so I'm not
17 prepared to comment in any degree but I would certainly
18 have some concerns, because as outlined in the impact
19 statement the environmental studies that are being carried
20 out don't -- especially the ecological parts of it -- it's
21 not clear what hypotheses are being tested, what sorts of
22 variabilities are being assessed, whether impacts are
23 really going to be able to be measured from these studies.

24 There is a lack of connection between this data
25 collection program and the specific problem that's trying to

1
2 be addressed here, so I don't have -- I haven't reviewed
3 this and done enough analysis to be very concrete and
4 detailed about my -- but it's -- a question that I have is
5 had these environmental base line studies been designed with
6 the specific question of impacts from offshore oil drilling
7 and associative activities in mind, and it's not clear to me
8 that it has been.

9 Q In your opinion, is the final environmental
10 statement for lease sale 40 adequate for the purpose of
11 determining the environmental acceptability of the proposed
12 leasing development?

13 A No, it is not in my mind, and I -- as I read
14 and review this document I do not believe that a decision
15 maker will have available the best information available and
16 an assessment of how well known the estimated impacts are,
17 and as a result I just don't think it provides the best
18 available information to a decision maker.

19 MR. LINE: Doctor Moore is available for
20 cross.

21 CROSS-EXAMINATION

22 BY MR. JENSEN:

23 Q Professor Moore, I believe you testified that
24 you had done some work in connection with the CEQ study on
25 oil and gas with respect to the continental shelf areas?

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3 A There are -- Yes, there are innumerable
4 references to "We don't have this piece of information."

5 Q "We don't have the data?"

6 A Yes.

7 Q And what you are saying now, I take it, is
8 that those references should in some way be collated and
9 quantified so that a decisionmaker could get a collective
10 picture of the absence of data?

11 A Well, it's a part of what I'm saying, but
12 that's not the key -- that's not really the focal point of
13 my concern.

14 The focal point of my concern is why this
15 data and not some other data? We know there is other
16 data available, and there has been testimony to the fact
17 that some readily available data wasn't there.

18 Why was that data left out in the data
19 that was presented here? That's really the focal point
20 of the question that I'm raising.

21 Q Well--

22 A And just to add to that, the kind of framework
23 I laid out establishes some kind of criteria and some kind
24 of a way of saying, "Here is why we have this piece of
25 data; here is why we didn't look for this piece of data."

Q And I take it you feel that the document

Moore-cross/Jensen

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2 would be, oh, scientifically more defensible if there were
3 this methodology to justify the various assumptions and
4 the various conclusions arrived at in the document?

5 A I think that it would be scientifically more
6 justifiable, and I think that it would provide the decision-
7 maker with a considerably improved document.

8 (Continued on the next page.)
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Q You say that methods do exist for doing this.
Can you be more specific?

A Well, there are a -- a variety of environmental impact assessment methodologies and environmental impact statement methodologies that have been published in the literature that are very, very general, matrix analysis and this type of thing. But I think in this particular problem that I'm most familiar with is the work, the methodology that evolved from our various studies of oil spills, and I want to be very clear; I'm not saying that BIM should have used our methodology. That's the last thing I have in mind.

It's only one, it's one that emerged from our studies, it's subject to criticism, has been criticized. There are people who don't agree with some of the things that we have done, and so I'm not saying they should have done it our way.

What I am saying is we have done what I think is a -- developed a methodology for analyzing oil spills which meet some of the criticisms that I'm making about this impact statement.

Two particular areas that we tried to address ourselves to were this question of recovery, how long does it take for a habitat, for a community to recover from the impacts of -- of a biological -- of an oil spill? And as

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uncertain as those estimates are, we have attached specific lengths of time in terms of years to what we think are the minimum times to recover from a spill. And some of the literature we have used I have already cited, that appeared here, but then was never carried through. Those estimates of recovery are in the literature. They appear in the reports that have been referenced in this document, but they are never mentioned as -- for better or for worse -- either that BLM just didn't think that it was -- the analysis was adequate, and therefore didn't use it. It's just ignored.

So I don't know whether they felt that it was information and methodology that was inappropriate and -- and not applicable, or whether they didn't know about it, or -- I can't say.

My point is that those estimates, quantitative estimates, exist in the literature and are not -- not discussed one way or the other.

Another element of this problem, another way to quantify the -- or try to quantify what the impacts might be as the extent of the damage in a spatial sense. One of the things that's done in the analysis for offshore spills is to take hypothetical spill scenarios and then track where the spills might go and then see where -- what regions of the coastline might be impacted.

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2 This is not carried over into -- to near-shore spills,
3 but what might have been done is to do that with near-shore
4 spills and try to get a measure of whether when a spill
5 impacts a coastline whether it's between the range of one
6 mile and 10 miles, or is it between the range of 100 miles
7 and 1,000 miles.

8 I think in the programatic statement it's pointed
9 out that the Santa Barbara oil spill impacted something on
10 the order of 1,000 square miles, and I don't -- I hadn't
11 seen that figure before, but I think I could find it in
12 the programatic statement.

13 O.K., there is an estimate for a particular spill
14 under certain conditions. Whether or not that's useful in
15 this case is not -- I'm not prepared to say.

16 I do believe it's possible that estimates are made
17 of the spacial extent, at least the bounds in our knowledge
18 of the spacial extent, of particular spills.

19 Now, what that means, though, is that the analysis
20 has to postulate hypothetical scenarios.

21 The only way -- to make a generic kind of analysis
22 specific that I know of when -- when we don't really have
23 knowledge about what particular spill will occur, and so
24 on, is to postulate some examples that represent the range
25 of events that we might expect. And so one could postulate

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2 hypothetical spills, track, make calculations, uncertain
3 as they may be, but then say how uncertain they are, where
4 those -- where that oil might go, and then make estimates
5 on the bounds of our knowledge about how much say coast --
6 how many miles of coastline would be impacted.

7 Now that's -- that's the kind of analysis and the
8 kind of methodology which we have -- which we had tried to
9 develop.

10 Q When you referred to a near-shore spill, what
11 causal factor are you attributing to that, a near-shore
12 spill caused by what?

13 A In this particular case I was thinking pre-
14 dominately of a spill that would occur because of a pipe
15 line break, although I take it that it's not clear that
16 pipe lines will be the way to get oil to the shore, so
17 tankers could be involved, which makes that problem much more
18 critical.

19 But this gets in -- and I think it's appropriate to
20 -- to go on and get into the fourth point of concern that
21 I expressed, which has to do with the analysis of near-shore
22 oil spills.

23 Q All right, would you then get into that?

24 A And the -- the impact statement is -- is accurate
25 in -- in pointing out the potential severity and the

1 importance of near-shore spills, but then I get the sense
2 it minimizes or somewhat minimizes this problem on the
3 grounds that the probability of such a spill is very low.

4
5 And yet in the statistics on spills -- and I think
6 this is volume 2 -- well, first of all, to be specific about
7 this, in Volume 2 -- gee, I don't have it -- page 115 I
8 think, if my notes are accurate -- yes, the very last
9 sentence on page 115, it says that "the probability of
10 spills from pipe line breaks is given in section III-A-2" --
11 that's Roman numeral III-A-2 -- "and would be small for the
12 area."

13 But then when I looked at the statistics for spills,
14 near pipe line spills -- that's on page 89 if my notes are
15 accurate -- yes, page 89, table III-22 -- there is an
16 estimate here of the spill frequency statistics by potential
17 source of spill over the 25-year life of area. And it says
18 here that for pipe lines the estimate of probability of at
19 least one spill occurrence is .92.

20 Well, that in my mind is not a low probability
21 event.

22 Now, the pipe line, granted, will be running from
23 the center of the offshore tract 60 or 70 miles off shore
24 to the shoreline, and a spill conceivably could occur any-
25 where along that line, but the probability of a pipe line

1
2 spill almost is very high, it's more than .9 and the
3 expected number of those to occur is -- is actually 2 and a
4 half in this 25-year life. And if we are trying to take a
5 look at what the worse conditions are, the worst impacts might
6 be, which I think a decision maker needs to have some
7 assessment of, then we can hypothesize that this kind of a
8 spill is likely to -- the probability of this kind of a
9 spill from a pipe line near shore in my mind is not low,
10 it's not small, as stated in the -- as I quoted in the impact
11 statement, but I think it's -- it's -- it's fairly high.

12 AS to it occurring at any particular point, yes, that's
13 ultimately -- mathematically it's a probability of virtually
14 zero, of occurring at a particular point. That to me is
15 not the issue.

16 The point is that it's likely that this kind of
17 event will occur, so one way to get at the analysis then is
18 to propose a range of hypothetical scenarios which represent
19 the kind of event we are talking about.

20 And by taking this approach to the analysis it's
21 possible to be much more specific, and even become somewhat
22 quantitative about the range of effects that we might expect
23 to occur from this kind of event.

24 So that rather than getting the rather qualitative
25 kinds of conclusions which are -- which are presented in the

1
2 impact statement about near-shore spills, it seems quite
3 reasonable to me -- and the methodology exists in the
4 literature, and I would suspect one could easily conceive
5 of alternative methodologies which would allow this very
6 critical problem of near-shore spills to be treated much
7 more specifically, with much more detail and with some
8 quantification, so we'd get a range on the bounds of our
9 knowledge.

10 If a near-shore spill occurs, what is the range of
11 miles of coastline that might be impacted? What are the
12 habitats that are going to be impacted? What's the -- what
13 is an estimate for the chemical recovery of these habitats?
14 What's the estimate for the biological recovery?

15 And quantitatively, with ranges, not a single number
16 but the range that we would have. These methodologies
17 exist and are in the literature, and -- and I don't believe
18 I represented by this -- the work that goes into this
19 document.

20 I can -- if you'd like we can take specific passages
21 with regard to near-shore spill impacts and -- and I can
22 highlight some aspects of that. If you'd like.

23 Q Yes, please.

24 THE COURT: Well, why don't we take a break
25 for just a few minutes, and in the interim perhaps

1
2 counsel can consult with each other on the probable
3 time of this trial, so I can make arrangements with
4 the administrative office for personnel to assist
5 me next week and the week following if necessary,
6 and the week following that if necessary.

7 (Recess had.)

8
9 (Continued next page.)
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Moore-cross/Jensen

Q Now, in this connection, I also think you testified that one of your criticisms of the document was that it failed to lay out criteria or standards for what is acceptable in environmental risks.

A Right. I briefly mentioned that and I agree with that, yes. That's a-- I have a concern about the fact that whereas on one hand environmental acceptability is one of the issues at hand and is raised in the impact statement, there is no apparent, nothing that I could find which says, "Here are the criteria we will use to assess what is acceptable."

Q How does one accept criteria in an environmental impact acceptability?

A Well, we could go on two days about that.

Q Does it involve, among other things the weighing of the particular objects in mind -- and in this case OCS activities -- against the potential harm?

Wouldn't that be part of the process?

A Can you repeat that?

Q I guess what I am getting at is this: Would it be possible to meaningfully calculate acceptable environmental hazard criteria without taking into that calculation the other social interests that may be represented by the action that is being proposed?

2

Moore-cross/Jensen

A Well, somehow the question as you pose it, I can't go anywhere with it.

Q All right. Can we hypothesize that it can be predicted with some probable figure that a particular species of fish would be decimated?

And there is a probability figure for that likelihood that the decimation occurring.

Now, your testimony is you would like to see some criteria as to when that becomes an eventual unacceptable risk, that decimation of that species of fish?

A If we could calculate the probability that a particular species would be impacted to a certain specified level, then it would seem -- and I emphasize that if we could do that -- okay? -- I am clear that we can try to do it, and that could become one of the -- we could set criteria about probability that -- you know, that would be a way to do it.

If we start setting numbers, we are talking about setting standards. Okay. The criteria might be some major degree of impact on fish population. Okay.

Another criteria might be some major -- the number of miles of coastline that might be affected.

Q No. I--

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Moore-cross/Jensen

A Another major might be the length of the volume of material that has to be dredged up in order to lay the pipeline.

Q I understand all of that. And I think that the EIS attempted to do, although not as specific as you would like --

MR. LIKE: Is that a question or a statement?

MR. JENSEN: I am coming to my question.

Q But I would like-- But I thought you were talking about something quite novel, which is not in the EIS -- which is an expression of the standards of minimal acceptable descretion or harm. If I am wrong about my impression, say so.

A No.

Q I want to understand--

A I am trying to-- The way you put that, I would say, well, that is a goal to shoot for. Okay. I'm not sure we will get to something as concrete and specific as you seem to have in mind, but I certainly think it's something to work toward. Okay. I don't know how else to.

Let me go back to what my concern is. My concern is that I don't find in the document any -- in any

presented coherent form what are the criteria for determining acceptability. It simply says we want an environmental-- the decisions are to be environmentally acceptable. And then there is an analysis.

And then it's never raised again as to what-- out of our analysis is the criteria, nor determining environmental acceptability. I don't know any other way to say it.

Q In your view, this should be a function of the environmental impact statement?

A Yes, it's a decision document.

Q Now, in several places in your direct testimony you refer to phrases in the EIS which you felt perhaps too general to be meaningful. And I -- one specific instance was when you refer to a sentence that said, in effect, that recovery will occur -- I believe I am quoting -- fairly rapidly.

A Right.

Q And you criticized that terminology I believe because you felt that that does not give the decisionmaker specific -- enough information to base his decision.

A Right.

Q But is it not true in the context of that discussion -- and I think you pointed this out yourself --

14

Frudenthal - direct

1967 and then in the footnote it says 1976 so I telephone Tony and asked him if there had been any update to this article, of which I was unaware and he said no.

So this is very misleading because one believes that perhaps this is an update.

Q Excuse me.

MR. PICCIANO: Your Honor, just for the record my particular volume does also indicate the reference as a 1976 reference.

THE COURT: It's probably a typographical error.

THE WITNESS: Probably but at the same time it was a little bit misleading and shocking.

At any rate, I then asked Mr. Tormina if these prices were still valid and he said absolutely not, and we multiplied everything by a value of approximately three, and I think if BLM felt that this was important enough data to be put in -- and it was put in, by the way, new from the draft on the request of the commentators -- I think that whoever wrote would have or should have also revealed that in 1967 with the inflation that we have, the values were a little outdated. It's very misleading it's inaccurate and a phone call to Mr. Tormina

1 plankton, the introduction, most of it has been taken from the
2 trigom, which is the research institute of the Gulf of Maine.
3 A series of books that were published in 1974. And this has
4 all been taken from the phytoplankton section.
5

6 In Trigom, the introduction to the phyto-
7 plankton section indicates that the writer made a summary of
8 the phytoplankton text that was published the previous year,
9 1973, in the series by the University of Rhode Island, which
10 was funded by the American Petroleum Institute, and included
11 groups of selected studies. So that by the time we received
12 this -- essentially, 1973 is the latest date that has been
13 included. And we are receiving it third- or fourth-hand.

14 Q You say 1973 is the latest date that the last
15 reference with respect to Trigom and the University of Rhode
16 Island had its land studies?

17 A That's correct. Because the articles -- the
18 information in the articles comes to us from the original
19 article which has been abstracted by the University of Rhode
20 Island, all of the citations that say Smayda. Smayda was in
21 charge of putting together the phytoplankton sections for the
22 University of Rhode Island series. So in every case where we
23 see Smayda, 1973, that is really the University of Rhode
24 Island.

25 So the issues have come down to us from the

1 original researcher through the University of Rhode Island.

2 And then it has been further condensed by the writers of Trigom.

3 And then we have gotten it fourth-hand.

4
5 Q All right. Now, with respect to these sections,
6 biological communities, how much of it refers directly to
7 Trigom and the University of Rhode Island studies?

8 A You mean --

9 Q Approximately what --

10 A Oh. Well, no. What threw me there was you said,
11 their studies. They weren't really studies. Those writers did
12 not -- they abstracted other studies.

13 Q Thank you.

14 Would you describe briefly for the Court what
15 the -- what the Trigom study was, what its purpose was in the
16 University of Rhode Island studies as well as its purpose?

17 A Well, both of them were inventories. The Trigom
18 specifically states that their purpose -- by the way, Trigom
19 had been funded by BLM -- to put together the studies.

20 Trigom states that its specific purpose was to
21 create an environmental inventory. It does just that. And
22 it's a very useful addition to one's library.

23 And the University of Rhode Island put together
24 their research accumulation to show the work that had been
25 done to that point and to put up the gap in research that

1
2 needed work.

3 Neither of those purposes served the purpose of
4 this document, which was not to only report like a laundry list
5 or a grocery list of items, but to explain the inter-
6 relationships of those particular organisms, one to the other.
7 That's what the environment, that's what ecology, and that is
8 what an environmental description is about.

9 If one had been told to put down a description
10 or an itemized list of organisms, this would be fine. But as
11 I understand an environmental assessment, the environment
12 includes the entire ecology of the interrelationship of the
13 organisms with their environment. The give and take between
14 the organisms and the environment, the environment and the
15 organisms. And we never get that far. We are only brought to
16 the brink of knowing what's there. But the magic of the
17 ecology, the magic of what makes this whole environment out
18 there so fascinating, so important, so useful, so necessary to
19 preserve, we are never really given the full story. We are
20 just tickled.

21 Q How would you describe your assessment of the
22 discussion, if any, of these interrelationships and cumulative
23 eco-systems effects?

24 A They are just not there. They are -- they are
25 missing.

1
2 There are two ways that cumulative results could
3 have been presented. Many of the commentators on the draft
4 mention that there were no cumulative effects mentioned. And
5 so in this issue there is one section -- I don't know where it
6 is -- but the only cumulative items that are mentioned is the
7 cumulative effect of this sale in conjunction with a succeeding
8 sale in that sense. And the scientific community was not
9 looking for that sort of cumulative effects. The cumulative
10 effects that the scientific community was looking for would
11 have been the cumulative effects on the specific organisms of
12 a series of sub-lethal impacts.

13 For instance, the increased turbidity, which is
14 mentioned in here, the decreased oxygen, which is increased,
15 the chronic -- the chronic hydrocarbons, which is mentioned,
16 the heavy metals, which are mentioned -- those sort of
17 cumulative impacts, sub-lethally hitting an organism in a
18 consecutive period of time.

19 Q Well, if these items are mentioned, what is it
20 about the discussion that bothers you?

21 A The fact that they are never tied together.

22 Q Can you give me an example of how that should
23 have been done?

24 A Well --

25 Q Or could have been done?

1
2 to page 240, the third paragraph.

3 "The phytoplankton community of the area is
4 very diverse."

5 To the uninitiated, one doesn't know whether
6 the phytoplankton community of the area being very diverse is
7 good or bad. It happens to be good, as I mentioned yesterday,
8 in the ecology concept where we assume that diversity -- the
9 greater the diversity the healthier a body of water is. Just
10 a generalization. But it normally holds true. But to someone
11 who doesn't know that, who doesn't understand it, that sentence
12 could mean anything.

13 All right. Then we continue.

14 "Among the groups" --

15 Q What would you have added to the end of that
16 sentence if you had written this document?

17 MR. HYMAN: Your Honor, if there is an objection
18 to the document -- she didn't write the document. She
19 is talking about --

20 MR. PICCIANO: I have asked if she did.

21 MR. HYMAN: She's talking about writing a
22 scientific document. She testified that a scientist
23 would not be satisfied with it. She considers it a
24 scientific document. This document was written for
25 non-scientific purposes. A million editors or authors

1
2 would write it in a different way. And I don't think
3 now this could be helpful to the Court to make a decision.

4 THE COURT: Overruled.

5 I will hear your explanation.

6 THE WITNESS: I can appreciate --

7 THE COURT: Excuse me. Don't respond to counsel.
8 Just confine your answer.

9 THE WITNESS: All right.

10 Well, as a scientist, when I write for my reports
11 for the Health Department, I am writing for engineers.

12 And they also do not appreciate a strictly scientific
13 reference. They also are making decisions. And when I
14 write a scientific statement, I must elucidate further
15 so that they understand whether what I am writing is
16 normal, stress, good, bad, changed, similar, natural.
17 I must always do this. Because as a scientist I am not
18 in the decision-making seat. The engineers are in the
19 decision-making seat. And I must feed the information
20 to them so that they can make the decision from the
21 scientific information. And I think this -- this is
22 comparable.

23 The next statement happens to have been taken
24 from the University of Rhode Island among the groups
25 represented. And then we are given a list -- represented

1
2 bibliographical references?

3 A Yes.

4 Q Do you have any opinion with respect to such a
5 heavy reference to bibliographical references as a correct
6 scientific procedure?

7 A It can be extremely misleading because the
8 person who originally abstracted the original reference had a
9 purpose in mind when they read that paper. And they took from
10 that paper that which fulfilled their purpose. The next
11 abstracter, not having read the original and only seeing what
12 has been the first few sentences, may completely miss a far
13 more important, more pertinent statement in the original
14 reference that is much more valid for their purpose and may
15 in fact either mislead or completely falsify. It's a very
16 dangerous practice.

17 Q Where is it dangerous? What are the implications
18 to the scientific quality of this document?

19 A Well, on page 242, it's very nice that my
20 husband has been referenced. There is a reference in the top
21 paragraph to Freudenthal and Lee. That's my husband, the
22 other Dr. Freudenthal. However, the reference shouldn't be
23 there. It's an incorrect reference.

24 The title -- the beginning sentence to that
25 paragraph says, "Modest guides exist" and a list is given.

1
2 Well, for the purposes that this environmental
3 assessment has been made, it's important to know what does this
4 mean? And by reading the rest of the article, instead of --

5 Q Which article are you referring to?

6 A I am referring to Eisler's article, 1972.

7 Q Would you give the title?

8 A Yes. "Cadmium Uptake by Marine Organisms."

9 And I have it here. At the very end of the
10 article, in the resultant discussion, Eisler writes, this
11 clearly demonstrates that all species tested accumulated
12 measurable amounts of cadmium in three weeks from seawater that
13 from the public health viewpoint contains theoretically safe
14 levels of cadmium.

15 So by taking only the data and not taking the
16 interpretation of that data, we have missed a very important
17 point.

18 Q In other words, the interpretation of that data
19 was in fact presented in that article?

20 A That's correct.

21 Q And the interpretation which would be meaningful
22 to a decision-maker was not included in that section to the
23 impact statement?

24 A That's correct.

25 Then there is another place -- and I cannot find

2

Freudenthal - direct

point I might make: Very often references are cited. The only references that are cited, again in TRIGOM or URI. And in a number of instances there are glaring omissions where bibles for a particular group of organisms have not been mentioned. Here, for instance, for the -- algae are -- here we go, benthos: The distribution of benthic marine algae along the New York --

THE COURT: What page are you reading from?

THE WITNESS: I am sorry. 261.

-- is not very well documented. "Any student of marine algae would know that Dr. William Randolph Taylor has written the bible of the marine algae of the northeast coast of the United States, which exactly is in this particular area.

And in the bird section also the two bibles, John Bull's book and a two volume set on water fowl are not at all referred to. And there are a number of others also wherein the -- invertebrates, with three main bibles whenever we are examining an invertebrate, we immediately bring out Miner. Well, Miner is referred herein -- in a manner that's almost, well, ludicrous. It's such a minor example of Miner. When Miner's book is the original bible,

1
2 fieldbook to the seashore life from Cape Hatteras
3 to up in the Massachusetts area.

4 And then also the Woods Hole Key, which was
5 developed by the people at Woods Hole, which was also
6 a guide to the invertebrate of the area.

7 And then Gosner is a guide to the
8 invertebrates also, exactly in this particular
9 area. And none of these are referred to or used
10 or utilized.

11 BY MR. PICCIANO:

12 Q Doctor, let me ask you this: What does that
13 tell you or what are the implications in referring to
14 these classics?

15 THE COURT: Well, I think that's fairly
16 clear. I don't want to cut you off because I know
17 how busy you are with these other things, how many
18 demands are made on your time. How would you rate
19 this as a scientific study, "A plus" or "C" or "B"
20 or "D" or "F"

21 THE WITNESS: If one of my -- no, I can't
22 even say if one of my students. I don't think
23 one of my students would ever submit anything that
24 had been plagiarized to this degree. I think one
25 of my students would know that one normally goes

Freudenthal - direct

back to the original.

THE COURT: Well, what grade would you give this for somebody producing this as a book?

A graduate student? F?

THE WITNESS: I think the person would have had to do this was probably in a tremendous rush, and I think for an impact that is going to be on the order of 25 years, I think one should not have been forced to be so rushed that one had to be inaccurate, incomplete, misleading.

THE COURT: Is it unsatisfactory in your opinion? I know you are very kind about the writer, but what about the product? Is it unsatisfactory?

THE WITNESS: For the purpose that it was needed for and needed so desperately, so that someone trying to make a decision could give accurate weight to the values that were presented, so that the person would know how to make a trade-off, I don't think it fulfills the bill, no. I am sorry about it, as I feel badly because I feel a product of the Government that had everything at its disposal to create a superior document that should have led the decision maker from one point

Freudenthal - direct

THE COURT: I am sure you will be available.

THE WITNESS: Can I just hold it for a second in case he asks me something?

THE COURT: Put that on the pad and then we will just all --

THE WITNESS: That's a little neater.

THE CLERK: Plaintiff's Exhibit 58 in evidence.

(So marked.)

THE COURT: All right, bring this to a close, please.

MR. PICCIANO: I will, your Honor, very shortly.

BY MR. PICCIANO:

Q Doctor, let's try to wrap it up with this series of questions.

A Okay.

Q With respect to the areas of referencing material -- Doctor, during the course of the preparation of your testimony did you come across references, scientific references which were published at a time within which the documents would have been available to BLM and which in fact were not referred in the Environmental Impact Statement?

A Oh, yes, many.

8 Freudenthal - direct

1
2 Q Would you briefly describe what these --
3 give the citations and what they talk about and would you
4 tell the Court, please, why and how you consider them to
5 be important to have been included in this document?

6 A Well, there had been a lot of talk about
7 ichthyofauna and ichthyoplankton, and this is a document,
8 an ecological study of the ichthyofauna at the Northport
9 Power Station prepared by Dr. Herb Austin, who is a very
10 reliable fishman. This is New York Ocean Science
11 Laboratory at Montauk and it was made for LILCO. And a
12 very, very valuable --

13 Q And the date?

14 A The date '73, May 14, 1973.

15 Q And was it referenced in the impact
16 statement?

17 A No.

18 Q Do you consider the contents of that
19 volume pertinent to the discussions in the impact statement?

20 A Yes, because it goes into migration,
21 reproductive cycles, spawning areas, nursery areas of all
22 of the relevant fish.

23 Q Please continue.

24 A Well, here is one by Dr. John Mahoney at
25 the National Marine Fishery Service in Sandy Hook. "Fin

9

Freudenthal - direct

1
2 Rot Disease of Marine and Urea Inhaling Fishes in the
3 New York Bight," that describes the tail and fin rot of
4 the fish in this area, which implies that many of them
5 are already sublethally affected. And the --

6 Q Is that what you call stress condition?

7 A Yes, this would be definitely a stress
8 condition. And here we have a varied group of organisms
9 in an area that is already stressed, and I certainly think
10 that the implication of this could have been mentioned
11 in the section on the fish where they were talking about
12 fish and pollution and that the oil is a possibility of
13 a further sublethal stress, being a cumulative effect.

14 And this is a very reknowned paper that's
15 well known.

16 I will see what else I have here. There
17 are a number of other papers on sublethal effects of oil
18 on fish, synergistic effects, which by the way, is not
19 mentioned at all, where exposure to one sublethal stress
20 condition will very often enhance the organisms susceptibility
21 to either a second dose or a different stress, and there
22 are a number of synergistic effects.

23 Taggart's is a very --

24 MR. PICCIANO: Would you give the reference,
25 please?

1
2 A Yes, this is in Chesapeake Science in
3 1961. "Reduced Oxygen Tolerance and Toxicity of Petroleum
4 Products to Juvenile American Shad," where the lethality
5 of petroleum products to shad was found to increase when
6 accompanied by low dissolved oxygen. So this is another
7 synergistic effect.

8 Q Would you consider that to be a reputable
9 document?

10 A Taggart's? Yes.

11 I am just trying to pick and choose a few
12 pertinent ones. Oh, Voyer.

13 Q Title, please.

14 A Yes. "Effects of Dissolved Oxygen Concentration
15 on the Toxicity of Cadmium to the Mummichog, *Heteroclitus*
16 *at* Various Salinities," and this was January 1975,
17 transaction of the American Fisheries Society.

18 This described the -- the fact that the
19 characteristic pattern, response pattern to heavy metals
20 is known in fresh water fish, but that very often the
21 characteristic response pattern differs in marine fish
22 because of the different methods of entry of the metal,
23 the different osmotic regulatory mechanisms.

24 In fresh water fish water is absorbed
25 osmotically through the gills and there is an oxygen

effect, and in marine fish, marine fish swallow water, and so there is no oxygen effect because they are swallowing the water and the effect more often appears in the viscera or in the gut, and there are a number of different articles.

And many times the references in here refer to results on fresh water fish, and now more and more when the articles are coming out, this mode, different mode of entry -- and there is another one I think with mercury --

Q Did you consider that relevant to a discussion of environmental impacts or cumulative effects?

A Yes, I do, because now -- in here, mainly in Appendix 9, by the way, which really should have been in the text, the impact section in Vol. 2, I was very upset with that because I think in the very first sentence of it it says that this is only a synopsis of Appendix 9, which has the real meat.

And I couldn't understand why Appendix 9 was an appendix and not in the text. And when I went to Appendix 9, I realized that Appendix 9 again is stating that this organism took up so much of that and depurated so much and kept so much for so long, and showed this and that, but again without any meaning to the whole work.

And much of the work has been done on fresh

1 water fish and much of the work has been done on marine fish
2 and where the findings are indicated that some of it shows
3 up in the viscera and some of it shows up in the gill, to
4 the uninitiated one didn't -- one can't get an idea of why.
5

6 And so at least one article or one
7 explanation was something, and would have solved this
8 difficulty for the person who was wading through all of this
9 and made the two kinds of studies meaningful because
10 of the different modes of entry with the fresh water fish
11 through the gill and the marine fish swallowing the water.

12 Q Incidentally, Doctor, when I asked you a
13 question as to whether any of these references are referred
14 to in the impact statement I include the Appendix 9.

15 Have you been answering with that in mind?

16 A Oh, yes, there are three -- actually there
17 are three bibliographies in here. There is the original
18 bibliography, which was the bibliography in the draft, and
19 that which was carried over from the draft is in that
20 bibliography. Then there is an addendum which has the
21 few extra citations that are put in every now and then,
22 namely because the commentator told them to put in extra
23 information.

24 And then there is a separate bibliography
25 for Appendix 9. And Appendix 9 really has the meat --

I immediately went through the list and -- in fact, I found some of them on my own because I wanted to read them firsthand. And then I got curious and I started to wonder how many had really been used.

Q How many of those references appear -- well, first let me ask you this: Do the references that appear in that document as you have described them generally, do they have in your opinion a direct bearing at least according to subjectmatter to the subjects discussed in the environmental impact statement?

A Oh, yes.

Q Now, do you have any comment as to how many and which of these references actually appear in the Environmental Impact Statement?

A Well, 90 per cent of them just in those categories were excluded.

Q They were excluded?

A They were excluded, 90 percent were not used.

In the dozen sub-categories that I looked at there were a total of 394 references and only 38 of them were in the impact statement.

Q In order to expedite this now, can you give us one example, one category with which you are familiar

biological community in volume two of the impact statement?

A . Essentially yes, because one could not even read just the impacts in volume two. It was even explained to the reader that that section was merely a summary of appendix nine. One had to then go for greater detail to appendix nine from volume two impact to volume three, appendix nine.

And then even in appendix nine most of it was a recitation of one to a few sentences of hard data of information taken from the original research, but without interpretation or meaning or interrelationship.

Q All right, now you mentioned certain scientific writings that you said were not referenced or referred to in the final environmental statement for sale 40.

Do you mean by that -- oh, strike that.

And I believe you also testified that there were three bibliographies for it -- for the --

A Yes.

Q -- final environmental statement.

The bibliography that's brought over from the draft statement and a bibliography of additional writings and then a bibliography for appendix nine.

A Right.

Q Were you saying, then, that those scientific

Frudenthal-Cross-Hyman

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Q Okay, I direct your attention to page 244, 269 and 270 and ask you, isn't it a fact that the Great South Bay is also mentioned on those pages?

A Could you repeat the pages, please?

Q 244, 269 and 270.

A 244, it would --

Q 69 and 270.

A Right.

I don't consider that being mentioned.

Q Doctor, the question is does it appear, Great South Bay, on page 244, on page 244?

MR. PICCIANO: Objection, your Honor. If the witness can only answer the question with a qualification she should be permitted to do so.

MR. HYMAN: Well, I think he's permitted to do it on his examination.

THE WITNESS: I don't --

Q Is it mentioned on page 244, yes or no, Doctor?

A It's the same as if it were mentioned in an obituary, it doesn't mean anything.

Q All right, is it mentioned? Maybe it should belong in an obituary.

A Yes, I see the words "Great South Bay" but

4
1 it doesn't mean anything.

2
3 Q Doctor, would you please turn to page 269?

4 A I don't -- I'm not even -- I'm not even
5 certain if there is anything after it or whether it's a
6 typographical error, because if you look what it says under-
7 neath it it says "Moriches Bay."

8 However, in the next two columns it says --

9
10 Q Doctor, --

11 MR. HYMAN: Your Honor, I asked her a simple
12 question, does the words "Great South Bay" appear
13 on page --

14 THE WITNESS: But there are no numbers after
15 them.

16 It says "Great South Bay" then it says
17 "Moriches Bay."

18 In between the two it says 47 and then it says
19 110 times to the sixth.

20 I don't know whether it's Great South Bay
21 or Moriches Bay, because the numbers are missing.

22 Q Thank you, Doctor.

23 Now, would you please tell us whether the
24 words "Great South Bay" appear on page 244?

25 A Yes, it appears.

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Q So your testimony yesterday that it appears in only two places was erroneous, is that correct?

It appears in three places.

A Well, are you looking for the written word or are you looking for something about it?

Q Yes, I'm looking --

MR. PICCIANO: I think the testimony yesterday was discussion appeared in two places, not the words "Great South Bay."

Q Let's look at page 269. "Conrad (19)."

A Oh, that's travesty altogether.

Q Okay, does it appear, do the words "Great South Bay" appear on page 269?

A Let me show you --

Q Doctor, I'm -- just answer, please answer the question.

A It does, but it isn't talking about it.

Q Well, we'll talk about it.

A I'm sorry! Yes, the words appear.

Q And does the statement say that Conrad (19) --

A Conard.

Q C-o-n-a-r-d 1953.

A 1953.

Q Thank you, Doctor.

Describes the benthic marine algae of Great South Bay.

A It says it, but it doesn't -- if you go to table number 244 in the next line where it says "Conard in 1935 described the marine algae of Great South Bay and the coast of Long Island."

Then it refers you to table number 244. If you go to the next page it says -- by the way, this is taken from Smader, Halverdon Dorsen and Stage, distribution of marine algae of New York modified from Conard 1935.

Then if you read along where the locations are except for Montalk Point all of the locations are on the North Shore. Center Island is by Oyster -- so it -- it says it's Great South Bay, and then -- but it isn't.

And then -- just a moment, if I might continue, -- the next sentence, Johnson and York 1915.

Well, wait a second.

Q Doctor, I just asked you if the word appeared?

A The word appeared.

Q I have a very specific question that requires a yes or no pursuant to the Court's instruction.

THE COURT: Excuse me.

Q Your attorney can ask you about it.

THE COURT: Let the witness finish.

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Q But if he read this third-grade statement, would he comprehend it?

A Yes. I am certain he would comprehend it. But it would not at all give him a weighted -- there are all sorts of predators that feed on other animals. There are some that are extremely important to that mid-Atlantic area. There are others -- he has to be able to have enough weight so that the balance -- he can see where that balance goes.

Q Okay. You would like a little more in the statement, then, right, regarding --

A Of a higher level.

Q Higher level than the third grade level.

A Yes.

Q Let's look at Vol. 1, page 312 then.

A Okay.

Q Food and feeding.

A Yes.

Q Fishes. Now, would you agree that the statement appearing in the first paragraph and second paragraph --

MR. PICCIANO: What page?

MR. HYMAN: 312.

MR. PICCIANO: Thank you.

Q "Fishes are of three very general feeding types types according to Ricker: plankton feeders, bottom feeders,

1 and fish eaters."

2
3 Would you characterize that sentence as -- can
4 we get up to the high school level now?

5 A Not really..

6 Q Still third grade?

7 A Yes.

8 Q Okay.

9 Arbitson. Is that correct?

10 A It's correct.

11 Q It is correct?

12 A Yes. It says, "general." It's underlined.

13 Q General.

14 A General means it's very third grade.

15 Q Okay?

16 A All right.

17 Q Arbitson -- am I pronouncing that word correctly?

18 A Yes.

19 Q 1974 for eighteen species of --

20 A Demarsil.

21 Q Demarsil fishes sampled from Nova Scotia to
22 Hudson Canyon, reports that the five most important prey groups
23 were fish --

24 A Crustaceans.

25 Q Yes.

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Q All right, now, with respect to Vol. 2 have you formulated any comments as to the discussion of the treatment of the environmental impacts as described in that volume?

A Yes, Vol. 2 contains most but not all of the value judgments that are made. It deals with impacts, mitigating measures and other NEPA topics.

There are a number of statements in Vol. 2 that I consider to be -- although each sentence taken as a subject and a verb and a predicate may be true, the compilation of them into a section becomes misleading and almost an advocacy statement in favor of the proposed activity.

Q Well, can you cite some examples to support that?

A Yes. I think at page 109 of Vol. 2 might be one such. There is a section in 109 of Vol. 2 which is a part of III, "Environmental Impacts of the Proposed Action," B, "Impacts of Oil and Natural Gas Operations on the Natural Environment," and then under the subtitle of "Heavy Metals" this section proceeds on page 109 over to page 114, and nowhere in this section does it happen to mention that heavy metals are toxic.

For example, let me read you a series of sentences taken from the first paragraph, 109:

"Heavy metals occur naturally in sea water in relatively low concentrations." That's true, no argument.

"In the coastal zone, especially in estuaries near river mouths or municipal discharges, concentrations may be much greater than natural background levels."

That's true. Note that it doesn't say why. It just is there. That's true.

"Fourteen trace metals are known to be essential for animal life."

Well, that's probably true. There may be more. I can't swear to that. But it's a true statement.

"They serve as components of enzymes, enzyme systems, activators, components of vitamins, hormones and respiratory pigments."

That's true.

Heavy metals are also toxic to marine organisms. That doesn't appear there. It doesn't appear in the rest of that subsection.

Now, it does appear, and toxicity levels are given in Appendix 9, which is referred to in the text.

However, I think decision-makers are not in the habit of reading every appendix and footnote in a document. They expect the text to describe the situation openly, honestly and fully.

That section on heavy metals is not such an open and honest and full disclosure statement.

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2 whoever did it or the committee that did it -- that he
3 didn't have an advance of these criteria. It seems to
4 me that you can't draft a document presenting those
5 risks even though you don't have the criteria in
6 advance. I am not criticizing the writer of the
7 document. I believe they did the assignment that they
8 were given in good faith, in good conscience, as
9 thoroughly as they could, given the materials that
10 they could get in the time they were allowed. That's the
11 important factor.

12 THE WITNESS: I don't claim that the -- it is
13 the authors themselves who are responsible for what I
14 consider to be the failures of the document. I
15 believe that much of that was a function of the
16 assignment. The authors, I don't believe, were given
17 sufficient time. They were forced to fall into the
18 literatures traps that Dr. Freudenthal described this
19 morning. It is not the fault of the people and I am
20 not in any way criticizing the individuals who did their
21 best to put this together.

22 I believe that they were working in a system
23 which does not allow them to meet the spirit of the law.

24 THE COURT: Well, could it be -- could they --
25 anybody have drafted a document without the a priori

1 determine whether there is in fact a cause-and-effect
2 relationship between the development of cancer in clams and
3 exposure to spilled oil. That is something that our
4 laboratory is working on. We have been working on it for --
5 well, since the seaport spill in Maine for several years.
6 We have circumstantial evidence that tells us that the only
7 place we find cancer in clams is where oil has been spilled.
8 But we don't have the cause-and-effect relationship, the
9 laboratory back-up work in which we would induce cancer in
10 clams by oil. And it may in fact be one of those things
11 which is going to be resisted to prove for additional years.
12

13 Q What specifically are you --

14 A The problem is that there is a fair amount of
15 effort put into that -- in the study plans and it is not the
16 kind of information that is going to be useful either before
17 or after the fact.

18 Q After what fact?

19 A Of the -- of production of oil in a given place.
20 It is not going to tell us where we might safely put
21 platforms. It is not going to tell us whether we put a
22 platform there and we found a population of shellfish that
23 couldn't be used because they have developed tumors, we
24 couldn't demonstrate that that platform caused it. It
25 certainly isn't a useful piece of information for this purpose.

11

Prager - direct

Is it your testimony that the bench mark approach as opposed to predictive approach of the study plan would be less useful than the proposal that you submit?

A I don't completely agree with that because there are aspects of a bench mark which are necessary in order to determine you know what the starting point was. There are parts of it that are going to be difficult to measure. The --

Q Let me ask you this, Doctor: What would be the value of a comparison, a bench mark comparison, assuming that the study started today, production occurred, and then the studies continued to show your comparison of, for example, levels of hydrocarbons and trace metals in indicated species?

THE COURT: Excuse me, I don't want that inquiry. I am not interested in that. I am interested in whether studies must be made before the basic decision to lease is reached.

I am not interested in what happens thereafter.

Q Doctor, moving along to another subject, do you have any knowledge within your own experience, do you have any personal knowledge in other words, as to the kind of data which is now being collected by the National Marine Fisheries Service?

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Prager - direct

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2 A Yes.

3 Q And specifically the MARMAPP Program?

4 A Yes. The MARMAPP Program is conducting
5 one or two cruises a year.

6 Q Let me interrupt you, Doctor, what does the
7 MARMAPP stand for, what does it mean?

8 A I was afraid you were going to ask me for
9 that. It's the Marine Research Monitoring, I believe,
10 Analysis and Predictive Program. It's run by the National
11 Fishery Service, Department of Commerce. They conduct
12 two cruises a year offshore. Actually the program is
13 conducted in the Atlantic, Pacific and Gulf Coasts, but
14 there are stations offshore in the area in question here,
15 the Baltimore Canyon Trough, in which plankton data, both
16 the larval and juvenile fish plankton and the zooplankton
17 plankton which are ubiquitous and present in the water all
18 the time, and the meroplankton which are the larvae and
19 organisms which are not plankton adults, such as the
20 Mahogany quohog, the hard shell clam, the sea scallop,
21 the lobster, they do not do phytoplankton to my knowledge
22 because there are standard measure sizes and they are
23 not too big and the phytoplankton go right through but they
24 do collect these twice a year over a very large area of ocean
25 in reasonable fine geographic detail. I don't know...

13 Prager - direct

1 how far apart their stations are but I think they are
2 adequate to use in judging the area in question if one does
3 not just consider the tract sites themselves but the impact
4 on the area from their inshore --

6 Q Doctor, assuming that some of this -- I assume
7 it's raw data, would you describe it as raw data?

8 A Some -- it's in varying stages of readiness.
9 Because, for example, the fish larvae data I believe is
10 given their highest priority because they use that data in
11 a model which the International -- it's called ICNAF,
12 International Commission on North-Atlantic Fisheries -- this
13 commission sets quotas every year for various nations
14 fishing activities, and these data that National Marine
15 Fishery Service developed --

16 Q Is this valuable data?

17 A Yes, I believe it is very valuable data.

18 Q And assuming that this data could be
19 analyzed and taken from its raw form and put into
20 some useful form, what form specifically would you
21 like to see this carried into?

22 A Well, I would like to see it --

23 THE COURT: For what purpose -- I don't
24 understand where we are. I want you to focus on
25 the decision I must make by August 17th.

with in any adequate form.

Q Well, if I were to tell you that the statement, that the Environmental Impact Statement, contained a statement that said -- we will use the example you used in your direct testimony -- referred to the fact that a whole year's class of fish could be decimated, isn't that a discussion of what the impact might be for fish?

A No, that is a description of the event but not of its consequences. But whether -- you see the basic question is will it pass the "so what" test? So what if a year class is wiped out. That's the answer that I think the decision-maker is looking for and any decision-maker worth his salary will always face a piece of information given him with the question "so what"? Does it matter? If it matters it will be factored into the decision, if it doesn't matter, it shouldn't be.

But whether or not -- you see this document fails to say, the scientific staff of this agency believes that that matters. That's what it doesn't say. Or that that doesn't matter. It's not in there.

Q And you think that this kind of value judgment would be proper for this document?

A Yes.

Q That's not enough to say --

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MR. BIALIK: Just for clarification, is the last question in reference to the Georgia Banks?

MR. JENSEN: Yes.

Q You said you were critical of that program? I take it --

A What program?

Q The environmental study.

A The study program and the RFP that was put out by BLM, and also some of the special projects that are --

Q But were you not a -- they were put out by the --

But were you not aware that Dr. Teal and his group were doing that work?

A My point is it isn't who is doing it. My point is that what has been laid out by the assignment by BLM is not a very prudent use of their resources for environmental analysis.

Q In other words, this --

A I don't really care who got the contract.

Q I understand that. But, in other words, this environmental -- this environmental study program, in your opinion, was a useless exercise by BLM people who are going to do the work?

THE COURT: Excuse me. I am not interested in this. And if you -- you persist on this inquiry, your cross-examination will be completed.

1
2 MR. JENSEN : All right, your Honor. I am sorry.

3 Q Did you submit a proposal to do this work?

4 A No. I believe it's the agency -- the Office of
5 Research and Development, against the advice of our laboratory,
6 did in fact enter into some agreement to do the special
7 projects relating to the Georgia Bank work.

8 Q Did you submit a proposal to do risk analysis
9 for BLM?

10 A No. We don't want to. As a matter of fact, our
11 senior scientific staff at the laboratory met and decided that
12 we would frankly rather see some of that money go into spill
13 prevention control technology and have it go to the engineers
14 rather than spend our time out on the continental shelf chasing
15 fish.

16 Q So your proposal, just as a hypothetical
17 exercise --

18 A Yes. It was something that we hoped BLM would
19 substitute for its kind of RFM that it was putting out. Our
20 laboratory had enough to do without getting involved in this
21 sort of thing.

22 MR. JENSEN: All right. I will turn it over to
23 Mr. Hyman for the couple of questions on the fishery
24 data.
25

CROSS-EXAMINATION

BY MR. HYMAN:

Q Doctor, did you meet the New York flight of American Airlines in Providence yesterday?

A Yes. You know I did. You were on it.

Q You were on the Government payroll yesterday?

A No. I was on annual leave.

Q Your own leave time?

A Just as I am today.

Q Did you drive myself and Mr. Bill Dodene to an office in Narragansett?

A I did in my own personal vehicle.

Q How were those arrangements made?

A How were the arrangements made?

Q Yes.

A Through conversations with Mr. Dodene and --

Q And did there come a time when the offices -- or sufficient office space was not available to take the deposition that you offered -- you kindly offered the services of your facility, ETA?

A I called and asked if the conference room was available at EPA. This is a common occurrence between our two laboratories in that they are across the street from each other.

Q Now, the gentleman from NOA who was being deposed,

1 a Mr. --

2 A Merrick.

3 Q Prior to that deposition yesterday, did you
4 ever have any conversations with Mr. Merrick as to the nature
5 of his testimony that was to be had yesterday?

6 A Yes. I spoke to him the day before.

7 Q And in addition to that conversation, did you
8 supply him with certain documents to look over?

9 A Yes, I had.

10 Q Were some of those documents a letter addressed
11 to various NOA agencies by the County Attorney of Nassau
12 County?

13 A I believe one of them was.

14 Q Well, how did that document come into your
15 possession?

16 A Mr. Picciano --

17 Q Gave it to you?

18 A Sent it to me.

19 Q Did Mr. Picciano give you an outline of the
20 testimony of Mr. Frank Basile in the New York Office -- his
21 testimony?

22 A Of Mr. Basile's?

23 Q Or some comments of Mr. Basile that he gave
24 at deposition?
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A That document.

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Q Consisting of three pages?

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A Consisting of three pages. And contained in it a typewritten copy of some handwritten notes that Mr. Immora had made or someone had obtained from him.

7

Q How did that document come into your possession?

8

A Mr. Picciano sent it to me.

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Q In addition to that, there was a one-page document that you turned over to the witness, also containing information regarding fishery resources; is that correct?

A The information, as I understand it, was information that BLM had from NMFS.

Q Now, you have had that information in your possession prior to yesterday?

A Yes. The day before yesterday.

Q And --

A I gave it to him the day before yesterday. Not yesterday.

Q Now, when -- but when did you first get the document?

A Perhaps a week before that.

Q A week before that. In a weekbefore that -- a week before yesterday, did you know what data was available at NOA?

1
2 Programmatic PDOD and the site-specific for lease sale No. 40
3 PDOD.

4 Q Now, Dr. Atkinson, what was the purpose of your
5 review of these documents?

6 A My purpose was to determine in general the
7 adequacy of the environmental impact statements and in
8 particular the adequacy of the treatment of the alternatives
9 within the environmental impact statements.

10 And secondly, I was concerned with the benefit
11 cost basis on which the analysis was -- on which the decision
12 was made for adopting the national program, and in particular
13 lease sale No. 40.

14 Q All right, Dr. Atkinson, do you have any comment
15 on the treatment in the impact statements and the PDOD's of
16 the subject of alternatives?

17 A Yes, I do. In my view, and from my point of
18 view as a professional economist, I felt that the treatment
19 of the alternatives or the treatment of many of the
20 alternatives was very inadequate in the impact statements.

21 The first thing I would like to point out, the
22 one alternative that was not considered at all was the
23 alternative of not treating self-sufficiency at some date
24 certain in the future. Throughout these documents, the goal
25 of self-sufficiency by some date certain, be that 1985 or 1990,

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1 depending on the time frame that we are considering, that
2 particular goal itself was never seriously scrutinized in
3 the environmental impact statements, and the first thing, it
4 seems to me that one ought to do is raise questions about the
5 desirability of that particular goal.

6 We have to recognize that the particular goal
7 involves basically two questions: There is in the first
8 instance the question of imports per se. Is there a benefit
9 per se associated with the reduction in the volume of imports?
10

11 And secondly, there is the question of the
12 security of supply.

13 Now, from the point of view of the goal of
14 project independence it seems to me this is quite a major
15 action, especially in the context or in the manner in which
16 it was presented initially, a major action that has
17 significant implications for the environment and involves a
18 massive commitment of capital and labor resources generally
19 in order to attain that particular objective.

20 But was there a critical evaluation of the goal
21 itself? And in general I could find no evaluation at all.
22 Rather, I could find references connecting the national
23 program and lease sale No. 40 to the goals of project
24 independence.

25 I find, for example, if we take a look at the

1
2 environmental statement in the Programmatic in Vol., page 159,
3 for example, what we are presented with there are historical
4 projections of the demand for and the supply of oil over time,
5 and the conclusion, which is rather obvious on the basis of
6 the historical projections, is that we should be concerned
7 with increasing imports over time.

8
9 In the final environmental statement in the
10 Programmatic, Vol. 1, page 12, the goal of non-dependence is
11 stated, and it is accepted without any analysis that we
12 should in fact reduce our imports and that if in fact we
13 have reduced our imports -- if in fact we had OCS production
14 now our imports would be substantially below what they
15 currently are.

16
17 Also in the final environmental statement in
18 the Programmatic, Vol. 2, pages 284, 285, we are told that
19 the national goal of energy independence by 1985 requires
20 each domestic energy resource to contribute as much as
21 possible to meet our nation's energy needs. And we are told
22 again that OCS production is no exception to this principle.

23
24 Just as a final citation, in the final
25 environmental statement lease sale No. 40, in Vol. 2, pages
576 to 77, once again we find the emphasis being placed on
the historical growth of the demand for and the supply of
energy, and there is also a vague reference to the limited

1
2 capacity of price increases to allow us to achieve energy
3 independence.

4 But in general nowhere is the goal of energy
5 independence seriously questioned. Rather, it is assumed at
6 the outset that more imports generally imply more costs, and
7 also insecurity of supply is simply assumed insofar as the
8 supplies derived from the Middle Eastern countries.

9 The question of a nation's comparative
10 advantage, the question of why nations trade with one
11 another, the question of why there exists a basis for
12 international trade has never been presented. In point of
13 fact we have gained significant benefits, we have gained
14 significant benefits in trade with the rest of the world
15 insofar as it has allowed us to devote our resources to the
16 production of goods for which we are relatively more
17 efficient in order to gain the advantages of purchasing other
18 goods and services from other countries in which they are
19 relatively more efficient.

20 And in general, the United States is not --
21 I mean does not have a comparative advantage in the
22 production of oil. That comparative advantage resides
23 elsewhere.

24 And the question of insecurity of supply is
25 never, never seriously assessed.

1
2 Now, the first thing that one must do is raise
3 the question about what the goal in fact means. Now, if we
4 go back and look at the initial statements that arose when the
5 initial program was promulgated in 1973 by the then President
6 Nixon, we see energy independence meant zero imports by 1980.

7 In the project independence report we find an
8 analytical definition of project independence. That analytical
9 definition is not one of zero imports. Rather, if you look
10 at the project independence report, and in particular I'll
11 merely cite the page on which this is contained, page 406 of
12 the Project Independence report, there is a recognition of
13 the fact that the attainment of increasing levels of
14 independence involves increasing costs, and reductions in
15 our vulnerable supply of imports attains for the nation
16 benefits. As we reduce the amount of our vulnerable imports
17 presumably there are increasing benefits.

18 And one obtains analytically that level of
19 imports at which the additional cost which we as a nation
20 incur, matched by the additional benefits which we obtain by
21 reducing our vulnerability to insecure imports.

22 Now, currently the policy is much different
23 than it was originally stated. If one looks, for example, at
24 the State of the Union address by the President on
25 January 15, 1975, which was stated in the -- which was

presented in the Congressional Record, and also if you look at President Ford's March 1, 1976 National Energy Program message, which was also printed in the Congressional Record, we see that energy independence by 1985 now means reducing the volume of our imports to the neighborhood of three to five million barrels a day.

Now the question, it seems to me, that needs to be addressed at the outset is the one of whether or not we can achieve that particular objective of the 3 to 5 million barrels a day by 1985 without an accelerated development strategy of which accelerated leasing on the outer continental shelf is one element.

In point of fact, if there were an adequate analysis of the market itself we would see that it is possible with a sufficient increase in the price of energy for us to in fact obtain substantial reductions in the volume of our imports. Higher prices lead to reductions in the quantity being demanded, and higher prices also lead to increases in the quantity supplied, especially given a sufficient amount of time for the attainment of that.

(continued next page)

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3 A (Continuing) In point of fact, take a look at
4 the Federal Energy Administration's recent national energy
5 outlook published in 1976, we see that on the basis of
6 projected future price of oil -- the basis of the expected
7 future price of oil, and on the assumption that the con-
8 servation measure embodied in the energy policy and
9 conservation act of 1975, that on the basis of the expected
10 future price of oil itself, and those conservation measures,
11 and without an accelerated development strategy, and without
12 mandatory conservation measures projected in our import to
13 approximately 3.4 million barrels a day, it's certainly
14 within the ballpark established by President Ford as the
15 target for 1975 -- I mean 1985 -- excuse me.

16 Now, nowhere do I find an establishment in the
17 environmental impact statement of the implications of the
18 higher prices for energy and the implications of the energy
19 policy and conservation act and the mandatory conservation
20 measures spelled out for the national program for lease
21 sale No. 40.

22 One can in fact find vague references to the
23 consequences of higher prices. But in point of fact there is
24 no detailed analysis of the operation of the market and the
25 implications of the higher prices for the national program
for lease sale No. 40.

1 Government intervention. On the other hand, it is
2 concluded that if government intervention is required,
3 that means that the action would not be undertaken
4 voluntarily, and, therefore, they impose net costs on
5 the consumer.
6

7 It is also added on page 10 that as long as the
8 total cost per barrel of OCS oil is less than the
9 price of oil, it is better to increase OCS production
10 by one barrel than to conserve an additional barrel
11 through mandatory conservation. This is true because
12 the barrel of production has a price per unit value
13 close to the exercise of its total cost. Thus,
14 it provides a net savings if it is produced.

15 Mandatory conservation, on the other hand, has net
16 cost.

17 Now, there are several difficulties with the
18 analysis of the conservational alternative. The first
19 is that government intervention, if it is required,
20 imposes on society the net cost. But it is widely
21 recognized that when there exists market imperfections,
22 the government by actually intervening can in many
23 instances rectify a situation so that the action which
24 it takes generates net benefits, not net costs.

25 Certainly, in this area, there are in fact a

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2 lot of market imperfections. We find, for example,
3 we know that it will be better in fact if people were
4 to insulate their homes better at the point of
5 construction. Although there will be a higher cost at
6 the front end, the discounted cost savings in energy
7 used over time will more than offset that initial cost.
8 But part of the problem with the housing market is
9 that all houses, well insulated and not so well
10 insulated houses, compete on an initial cost basis.
11 And in many instances, the consumer is generally
12 ignorant of how much it will cost to in fact heat and
13 run the house. And also the highly mobile nature of
14 the American homeowner is such that if the initial
15 investment takes several years to recoup, it is not
16 -- he's not particularly anxious to lock himself into
17 that high initial investment.

18 This is -- for example, a case which is
19 emphasized by the Federal Energy Administration in its
20 Project Independence report, as suggesting a
21 situation in which it is quite appropriate for the
22 Government to intervene -- and certainly, also, if
23 we look at the costs that are involved in acquiring
24 information about the energy efficiency, and also the
25 kind of demand which we would have to make on

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2 producers in order to acquire adequate information,
3 and also to have efficiency standards improved, this
4 is a situation where clearly Government intervention
5 could be called for. This is a problem of analyzing.
6 In this rather limited sense, those circumstances
7 under which it is appropriate for the Government to
8 intervene and the -- those circumstances in which
9 clearly there are costs. I think we have to look at
10 the conservational alternative in terms of the
11 gradations of effort which we pursue with respect to
12 those alternatives. That is, one can imagine the
13 gradation ranging all the way from do-nothing policy
14 through the technical fix scenario described by the
15 Ford Foundation in its report, A Time to Choose.
16 A technical fix scenario is one in which exclusive
17 emphasis is placed on improvement and efficiency
18 standards.

19 We can also include in this the conservation
20 measure mandates by the Energy Policy and
21 Conservation Act of 1975 through to more extensive
22 pursuance. And that is described by zero energy
23 growth. That also is a scenario that is described at
24 length in the Ford Foundation document, A Time to
25 Choose. In that document itself, a zero energy growth

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scenario is basically accomplished by putting additional emphasis on efficiency standards, and also through the use of attack on energy to divert resources away from goods which are energy intensive toward goods which are somewhat less energy intensive.

Now, certainly as you look over that higher spectrum of gradation, we find that at the one end where we begin with relatively minor conservation measures, it is generally agreed by the authors of the Programmatic and the site specific that there can be net savings. But as we pursue the efforts further and further we may discover that the net benefits themselves decline and we may ultimately get to a point where there is in fact a reversal in which there begins to be net cost. But simply because there exists net cost associated with pursuance of a Congressional alternative does not mean per se that that is wrong.

In many instances, for example, there exists national goals such as the cleaner environment, and also perhaps reduced vulnerability to insecure sources of energy supplies. And to the extent that there are in fact net benefits associated with the attainment of these goals, it is quite conceivable

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2 that conservation measures could be pursued further
3 than they might otherwise be pursued in the absence
4 of those goals.

5 So that --

6 THE COURT: Well, all this, Doctor, I must say
7 -- I think that all that you say is highly plausible
8 and I think I agree with it. It almost follows as a
9 matter of common sense and logic. But what's that
10 to do with the Secretary who has limited powers? If
11 you had one man who had all these alternatives before
12 him, and, in fact, he could order people to put more
13 effective insulation in their houses, or do a variety
14 of other things -- but the practical political scheme
15 is such that none of that is happening. That is a
16 Congressional problem or an Executive problem. And
17 these aren't really practical alternatives.

18 It is an interesting theoretical discussion,
19 but what has it got to do with a man who is faced with
20 a present situation where the critical system refuses
21 to take any of the actions you're talking about for a
22 variety of good and bad reason programs?

23 THE WITNESS: What I am looking at here is
24 basically the adequacy of the treatment.

25 THE COURT: But it's irrelevant, isn't it?

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2 THE WITNESS: Except that they conclude here
3 that we should in fact pursue the conservational
4 alternative.

5 THE COURT: But what does it mean if he has no
6 power to do anything? He's just making what amounts to
7 being a non-effective recommendation that the
8 Congress and others who have the power should act.
9 But nobody is going to pay attention to him and nobody
10 is going to pay any attention to anyone who has the
11 power to do anything to this PDOD.

12 THE WITNESS: Well, I am not a lawyer and I
13 don't know the recommendations, but --

14 THE COURT: You're a practical person living
15 in our society.

16 THE WITNESS: Well, we are --

17 THE COURT: Anybody in Congress is interested
18 in what the analysis in the PDOD or that the
19 President -- they are the ones that have to decide
20 whether you need, for example, more insulation, and
21 whether the price of houses should rise, and whether
22 the rise of prices in new houses will further cut the
23 production of new houses, and what are the labor
24 unions going to do and the stonemasons going to do,
25 and what are the banks going to do if you raise the

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2 price of new houses? What does the Secretary have to
3 do with all these developments? It seems to me that
4 this is an exercise of really no relevance of what he
5 is supposed to decide.

6 THE WITNESS: I am concerned basically with the
7 question of their treatment of the alternatives and
8 their arguing -- I mean there are various ways in
9 which we can in fact accomplish the goal of energy
10 independence.

11 THE COURT: We can. But the Secretary is
12 faced with a status quo. He's got to assume these as
13 given. And Congress hasn't moved. Congress can move
14 at any time it wants: I require all of these
15 conservation measures, increased costs of oil -- or
16 energy. But they haven't done it. He's faced with a
17 situation. It doesn't seem to me -- I just pose this
18 as a question -- that really all of this treatment is
19 any more than a lot of window-dressing that has no
20 significance at all.

21 Now, I agree with your analysis and I think
22 that probably the analysis in the statement was
23 somewhat superficial and misleading. But I doubt if
24 anybody would be misled by it. Certainly, not the
25 Secretary of the Interior.

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2 MR. ZEDROSSER: Well, I am just stating a fact.

3 THE COURT: You are not stating a fact. You
4 are saying that the recommendation came from Interior.
5 But that doesn't mean that the Interior didn't get the
6 orders from the White House to make the recommendation.
7 That's not the way these things work. You know that
8 as well as I do.

9 I am not going to decide this case as if I
10 didn't know how or have some specialization about how
11 the real world operates.

12 MR. ZEDROSSER: Well, your Honor, I must say
13 that when it assumes -- take, for example, the
14 projected independence, that President Nixon didn't
15 wake up one morning totally unadvised and come up with
16 that. As to who said the first word it may be
17 difficult to prove. But certainly the record would
18 indicate that the Interior was actively --

19 THE COURT: Probably the person that said the
20 first word was the speechwriter who has to make a
21 press release for that. You are a member of New York
22 State Government. I don't think New York State
23 Government operates very much differently in this
24 respect. The policy of New York State is as a matter
25 of fact to increase business productivity in New York

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2 State despite the aspect of efficiency. I suppose
3 whether the unions are aware of the fact that the State
4 was taking the position that in effect new housing
5 starts should be suppressed somewhat by these policies,
6 there would be a good deal of attention required in
7 the State Government and you might get your order from
8 the Attorney General to change your position.

9 Fortunately, however, we are trying this case in
10 Westbury so the press and union don't know what you
11 are saying. But there is a political unreality about
12 much of this discussion. We are dealing not solely
13 with the economics of power. We are dealing with
14 very complicated and sophisticated political and
15 governmental problems. And they just don't work in
16 quite this logical, reasonable economic way. .

17 I don't understand why in matters of law the
18 Court has to ignore how the Government in fact works.

19 MR. ZEDROSSER: I guess, your Honor, it
20 finally comes down to the fact that Plaintiffs will,
21 of course, argue that the National Environmental
22 Policy Act is itself an expression of Congressional
23 purpose.

24 THE COURT: If you can demonstrate that
25 legally --

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2 MR. TEDROSSER: As well as through other acts.

3 THE COURT: (Continuing) -- what the complexion
4 of acts applying here require that kind of decision
5 and gives somebody the power to make the decision and
6 make it stick, of course, it has a bearing. But if
7 it's just general policy talk about economic independence
8 -- energy independence without Congress putting any
9 teeth in it so that somebody can go out and force
10 people to put in more insulation or Congress can
11 force the rising of prices of oil, we are not talking
12 about anything that means anything in the real world.

13 Now, the practical aspect of the price of oil
14 is that when Ford increased the price \$2 a barrel,
15 Congress quickly or rather quickly forced a withdrawal
16 despite the fact that the court said he had the
17 power. And that was in part because of the desire to
18 make more jobs.

19 Now, these are all factors that seem to me to
20 bear -- and the fact that somebody produces a PDD
21 statement that is somewhat of a Mickey Mouse version of
22 real life doesn't mean that people aren't considering
23 all of these factors. That's the great difficulty
24 here. These are very difficult political problems,
25 not solely economic analytical problems.

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2 I will be delighted for you to make the record
3 and I will be delighted to read your brief. And if the
4 laws of the United States now require logical
5 economics to govern, I will be very pleased to have
6 to know about it.

7 MR. ZEDROSSER: Okay.

8 Q Dr. Atkinson, then, is the treatment of the
9 course of conservation somewhat different than in the PDOD
10 than in the impact statement?

11 A Very definitely. In point of fact, reading the
12 environmental impact statement, there are several references
13 to the net benefits which we as a nation will obtain as
14 a result of conservation measures. And there are allusions,
15 as I said, to costs, if we pursue it to a very extensive
16 degree. In the PDOD, it is stated outright that mandatory
17 conservation themselves, the measures themselves imposed on
18 society net cost, and therefore, we ought not to pursue those
19 measures. In fact, we ought not to pursue them until such
20 time as we have exhausted all sources of supply at \$11 a
21 barrel. Certainly, in this respect, it ignores, for
22 example, the savings of the barrel of oil in terms of its
23 environmental impact. It ignores the fact that a saving of
24 a barrel of oil means one less barrel that can possibly be
25 spilt. And insofar as differential spillage rates were given,

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2 considerable emphasis in the environmental impact in the POOD
3 for the adoption of OCS leasing. Also, the kind of cost and
4 -- and I don't think there can be much doubt that there have
5 been some costs associated with the mandatory conservation
6 and rationing programs which were introduced during the time
7 of the oil embargo. We can lose sight of the fact that this
8 was an abrupt discretion that was not anticipated and chaos
9 reigned supreme during that period of time. Whereas one can
10 imagine a situation in which there could be a much more
11 orderly adjustment to that sort of thing.

12 THE COURT: I suppose even as an economical
13 analysis you can say that in saving people killed and
14 reduction of accidents that there was a net gain
15 perhaps from all of that apart from the chaos.

16 Well, go ahead.

17 Q All right. Dr. Atkinson, in your reference to
18 the prediction in the projected Independence report regarding
19 the price of oil in 1985, is that prediction based on any
20 Congressional mandate or on market forces?

21 A That is based on market forces, on the realities
22 of the country's pricing policies.

23 Q And could you just clarify the number of dollars
24 per barrel and in what year prices they are talking about?

25 A They are talking about the projected price, 1985,

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2 \$13 a barrel, in 1975 prices. That is, the actual price
3 that will be paid in 1985 is anticipated to be in excess of
4 \$13, but it is corrected for inflation to put it on the same
5 basis and comparative basis with 1975.

6 Q You referred to ERDA. Is that the Energy
7 Research and Development Administration?

8 A Yes.

9
10 MR. ZEROSSE: Not, at this point I intend to
11 read portions of the deposition of Hughes that is
12 already in evidence and then ask the witness a
13 question about that.

14 Q There is a reference in here to Exhibit 15
15 that refers to the Programmatic of PDOP.

16 I am reading from page 185, beginning at line 3.

17 "Question: Now, referring to page 10 of
18 Exhibit 15, I refer to the paragraph beginning in the
19 middle of the page and to the bottom line in which the
20 statement is made, well, let me read the entire
21 sentence, quote, these measures require intervention
22 because they would not otherwise be undertaken by
23 consumer close quote ---"

24 MR. HYMAN: Your Honor, I object to the use of
25 the deposition.

THE COURT: Yes. Just a minute. We will take
a five-minute recess.

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2 MR. EDROSSER: Your Honor, I think it might be
3 just as well if I start the reading of that question
4 over again. We didn't get very far into it.

5 THE COURT: Yes.

6 Q "Question: Now referring to" --

7 MR. HYMAN: Excuse me, your Honor. At this
8 particular point in the deposition I have got to
9 remind the Court that Mr. Hughes is not a government
10 employee, was not a government employee at the time
11 the deposition was taken, that his testimony, no
12 matter what -- and I don't think it's even relevant
13 to the issue before us here -- is not binding on the
14 federal government.

15 THE COURT: Nothing is binding on the
16 federal government, but I am going to accept it as
17 evidence. Are you objecting on the ground that it's
18 hearsay/ What is the objection?

19 MR. HYMAN: Well, the objection is that
20 Mr. Royston Hughes was not produced by the
21 Government as a witness on this subject.

22 THE COURT: Excuse me. What is the objection?
23 It's being introduced in evidence. Now, what's the
24 objection?

25 MR. HYMAN: Well, the objection is that the

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2 federal defendants are not bound by this testimony.

3 THE COURT: Nobody's bound by any testimony.
4 It's evidence. I'll give it whatever probative force
5 I believe it has. No evidence binds anybody.

6 Proceed.

7 Q "Question: Now referring to page 10 of
8 Exhibit 15, I refer you to the paragraph beginning in the
9 middle of the page and to the bottom line, in which
10 the statement is made -- well, let me read the
11 entire sentence: 'These measures require intervention
12 because they would not otherwise be undertaken by
13 consumers, presumably because they impose net costs
14 on the consumer.'

15 "Would you tell us what net costs are referred
16 to in that sentence?

17 "Answer: It is my understanding that the net
18 costs referred to would cover a whole range of
19 topics.

20 "Question: What kind of net costs are you
21 referring to there?

22 "Answer: Creature comfort, the quality of the
23 ride, the very thing that the American consumer has
24 refused to abide by because he is now buying larger
25 cars again.

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3 "Question: So these costs are social costs?

4 "Answer: To the best of my recollection."

5 Turning now to page 186 of the same transcript,

6 line 6:

7 "Question: I refer you to page 11 of Exhibit 15,
8 specifically to the sentence beginning on the third
9 line, which I will read; 'However, as long as the
10 total cost per barrel of OCS oil is less than the
11 price of oil it is better to increase OCS production
12 by one barrel than to conserve an additional barrel
13 through mandatory conservation measures. This is true
14 because the barrel of production has a price per
15 value and per in excess of its total cost. Thus,
16 it provides a net savings if it is produced.'

17 "Could you tell me what those sentences mean?

18 "Answer: Those sentences basically refer to
19 the economic theory about the social cost of production
20 as opposed to the actual cost of production. And I
21 won't attempt to give you a detailed interpretation
22 on that.

23 "Basically, the sense of this statement is
24 meant to be that if in fact we locate and produce a
25 barrel of domestic resource there is a value to the
society above and beyond the actual dollars per barrel

of that oil because the difference between the cost of production and the transfer costs and the costs, the selling price, are put back into the economy of the society.

"The conservation issues, on the other hand, are a negative value in the terms of the dynamics of the society, imposing a negative value, having people do less, either making fewer cars or fewer roads. It is in a sense talking about social costs, not dollar costs.

"Question: You are talking about the total cost per barrel of OCS oil. You were talking there about dollar costs or social costs?

"Answer: I am just talking about a social cost, the cost to society by imposing a negative conservation measure that is greater than the cost to society by developing or producing an additional barrel of oil, because the production of that oil implies in the sense of the Gross National Product a ripple effect throughout the economy, and I don't profess to be a sophisticated economist like Dr. Gaskins or Dr. Moffett or Shirley, the architects of these words, but it talks about the social cost of an economy which is expanding as opposed to an economy which is negated by

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2 conservation measures."

3 Finally, I turn to page 193 at line 2:

4 "Question: Now going back to the sentence on
5 top of page 11, 'This is true because the barrel has
6 a price in excess of its total cost.' Are you there
7 talking about social costs or economic costs?

8 "Answer: I'm not talking about it but the
9 statement is talking about social costs, social value,
10 perhaps price is the wrong term.

11 "Question: All right, what does the term
12 price refer to; is that the dollar price or the social
13 price?

14 "Answer: It's my interpretation that that's
15 a social price.

16 "Question: So it's a social price in excess
17 of its total social cost; is that what --

18 "Answer: That's my understanding, yes."

19 Dr. Atkinson, do you have any comment regarding
20 the analysis of conservation expressed in the answers to the
21 questions which have just been read to you?

22 A I have a difficult time knowing quite where to
23 start on. I mean there is a considerable amount of confusion
24 of social cost, economic cost, social price, dollar cost,
25 actual cost, and this is part of the problem with -- with,

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2 I think, thinking in this area.

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4 What -- what we have to do, it seems to me, in
5 terms of thinking about this is to try to substrate what we
6 are talking about. Now, as I understand, the PDOD and the
7 arguments --

8 MR. HYMAN: I object to the answer, your Honor.
9 He asked about a series of questions, does he have an
10 opinion or can he discuss it. And the witness is now
11 going off on a whole line of things which indicate that
12 he really doesn't have an opinion or doesn't have an
13 answer to the question as posed.

14 MR. ZEDROSSER: It's part of the question --

15 THE COURT: Overruled. The witness obviously
16 has an opinion. He is just too polite to show bluntly
17 how contemptuous of it he is. So he's explaining it
18 more politely.

19 You may continue.

20 THE WITNESS: Part of the problem here is that
21 the way I understand it is that when they are talking
22 about the difference between the costs of producing
23 a barrel of oil and the price, the costs basically
24 that they are talking about are the costs, all costs,
25 including the normal rate of return, required in order
to get and commit the resources to OCS production and

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2 to maintain them there . producing oil.

3 The difference between that cost and the price
4 we in economics refer to as the rent. And the
5 question is then who gets that rent, and that's the
6 reference to, I suspect, the transfer costs.

7 Now, if we add to those private costs the costs
8 which are required in order to commit and to maintain
9 resources on the outer continental shelf, the
10 environmental costs, then we have a social cost figure.

11 Now, conservation on the other hand saves a
12 barrel of oil, and the savings itself would yield net
13 benefits as long as the costs do not exceed -- you
14 know, the costs of obtaining that level of conservation
15 do not exceed the price of oil itself.

16 Now, there is no question here of a social cost,
17 social benefit, social price. I -- I don't understand
18 that language. But simply it's possible that there
19 could be net costs, it's possible there could be net
20 benefits if the costs that we as society have to
21 incur in order to save a barrel exceed, you know, the
22 price of that. There could be net costs, and
23 conversely if the savings and energy used is less than
24 the cost of attaining it, then there are net benefits.

25 Now, it's been concluded here simply that there

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2 are net costs, and for all the reasons that I have
3 indicated earlier there are several problems with
4 blandly concluding that there are net costs simply
5 because the implementation of the various measures
6 require mandatory intervention on the part of the
7 Government.

8 The other aspect that troubles me is the
9 reference to the fact that conservation is a negative
10 value, it means do less, as he states, "Fewer cars
11 and fewer roads," and that this exerts a ripple effect
12 and presumably a negative ripple effect.

13 Now, there is a very serious problem with that
14 sort of thinking, at least from the point of view of
15 an economist, and that is if -- he's got it turned
16 around: By expanding production on the outer
17 continental shelf we are in fact committing resources,
18 saving oil on the other hand, and that frees up
19 resources for use elsewhere. And then that becomes
20 basically a question of stabilization policy, as to
21 whether or not we conduct monetary and fiscal policies
22 for the purpose of achieving desirable levels of
23 employment.

24 And in point of fact, conservation frees up
25 resources for use elsewhere, whereas expansion of the

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2 outer continental shelf, you know, involves a commit-
3 ment of resources. And it's on that basis on which we
4 should ask ourselves whether the attainment specifically
5 of the goal in question -- whether the attainment of
6 that goal -- whether there are greater benefits to be
7 derived from the attainment of that goal by accelerating
8 leasing on the outer continental shelf versus, you know,
9 conserving.

10 Q Do you have any further comments regarding the
11 conservation measures in the EPCA?

12 A With respect to the conservation measures
13 themselves, I only have one, and that is -- and this is
14 something that was emphasized in the Ford Foundation study,
15 "A Time to Choose." The conservational alternative provides
16 us with greater alternatives with respect to what we shall
17 do with our available resources, provides us greater
18 flexibility in determining how those resources should be
19 utilized.

20 At the moment, we tend to remain largely
21 ignorant of the extent of the hydrocarbon resources both
22 proved and unproved that we have available to us, and
23 certainly one advantage arising out of the conservation
24 alternative is that it provides us with greater flexibility
25 with respect to supply.

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3 I might also add too when we talk about the
4 Energy Policy and Conservation Act of 1975, which has been
5 mandated, that has been estimated by the Federal Energy
6 Administration in its national energy outlook for 1976 to in
7 point of fact save by 1985 approximately two and a half
8 million barrels a day. That would be in excess of the
9 total quantity of -- of oil and natural gas, put on the same
10 basis, that would in fact be generated in the outer
11 continental shelf.

12 THE COURT: Two and a half million net from what?
13 Our present usage or --

14 THE WITNESS: No.

15 THE COURT: (Continuing) -- two and a half
16 from the projected increase?

17 THE WITNESS: Two and a half from the projected
18 increase, where the projected increase at the current
19 high price, which is in the neighborhood of \$12 or
20 \$13, that current high price itself, it's two and
21 a half million barrels a day savings from that.

22 In other words, what it does is at the
23 projected price without EPCA they project a rate of
24 growth between 1975 and 1985 of 2.8 per cent. It
25 basically goes down to about 2.2 per cent between now
and approximately '85.

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2 Q You mentioned that conservation frees up
3 resources. Could you briefly indicate what you mean by
4 frees up and what it could be used for?

5 A Well, simply to the extent that's necessary for
6 us in order to meet the demand for oil to in fact produce less,
7 the resources that would otherwise be committed to increasing
8 supply or available for uses elsewhere. That's the capital,
9 the labor, you know, that exists for such production.

10 THE COURT: Well, that assumes it will be used
11 elsewhere. There is no necessity that it will be
12 used?

13 THE WITNESS: Oh, there is -- there is
14 absolutely no necessity at all that it will be used,
15 but then it basically becomes a question of
16 stabilization policy. That is, the federal government
17 is mandated to pursue monetary and fiscal policies,
18 and those tools are available, and are widely
19 believed to work.

20 Part of the problems that we are having now is
21 because there is a conscious effort on the part of the
22 Government to insure that the rate of recovery is in
23 fact slow, in order that they do not, according to
24 administration, you know, sources, set off another
25 round of inflation.

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2 But there are certainly tools available in
3 terms of Government spending, taxing, tax policy changes,
4 and also changes in the rate of growth of the money
5 supply, that can in fact enable us to achieve desir-
6 able levels of employment.

7 It has other implications, but resources in our
8 society are scarce, and there is a lot of uses,
9 alternative uses, to those.

10 And the real question we have to face is is
11 this use -- does this use constitute the best use of
12 those resources?

13 THE COURT: Again that would be true in a
14 totally planned society, but we don't have the
15 totally planned society, so that if they are not used
16 here it doesn't necessarily mean they will be used
17 for what you would consider useful purposes.

18 THE WITNESS: Well, in a macroeconomic
19 perspective, however --

20 THE COURT: They might be used for more
21 consumption because there would be less investment,
22 which would increase the use of energy, or they might
23 be sent overseas to produce jobs overseas, so that
24 unless you assumed a total planning, the use of the
25 resources not being used here, or a use of the

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2 financial devices and political devices you referred
3 to, I don't think it follows that if it's not used
4 here it will be used elsewhere.

5 THE WITNESS: It does not follow automatically.

6 THE COURT: But again we are --

7 THE WITNESS: What it does --

8 THE COURT: Again we are driven to the problem
9 that I raised earlier, and that is that you
10 hypothesize a situation where somebody will rationally,
11 who has the power to make decisions, decides that the
12 resources will be used elsewhere, but we don't have
13 that in being.

14 THE WITNESS: All right, I think there is one
15 misunderstanding. I am not assuming at all that
16 those resources will automatically be used elsewhere.
17 In point of fact -- and it's a standard tenet of
18 macroeconomic policy -- that if we look at an
19 economy as complicated as ours, complicated to the
20 point of massiness, that there are literally billions
21 of decisions being made by millions of businessmen
22 and consumers daily, it would be surprising if on a
23 quarter-by-quarter basis or even a year-by-year
24 basis we were to achieve that level of spending in the
25 Act which would in fact allow us to accomplish

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2 precisely the goal of full employment, or whatever we
3 mean by that particular goal.

4 But it's -- but part of the tenet of macro-
5 economic policy is that if we look at that objective
6 itself we certainly have the tools available to us
7 for the purpose of achieving the full -- full
8 employment of our resources.

9 THE COURT: Yes, even assuming you are right,
10 and we know what to do with them, there is nobody that
11 appears to be using them. That's part of the problem,
12 we don't have that degree of control, certainly not
13 by the Secretary charged with making this decision.

14 THE WITNESS: Not -- not by the Secretary of
15 the Interior.

16 On the other hand, if we talk about
17 administration of economic policy, the administration
18 certainly has as its ultimate objective a fully-
19 employed economy. But he has also made clear that
20 our pace of the recovery itself will -- must be
21 somewhat slower than it is potentially possible to
22 achieve simply because of the problem, real or not,
23 that it will set up another round of inflation.

24 Now, what I am basically arguing is certainly
25 the expansion on the outer continental shelf could in

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2 fact increase employment. If that is inconsistent
3 with the objectives of stabilization policy it could
4 very easily be offset, and so the basic question
5 really, fundamentally, comes down to one of "Look at
6 our resource use in its entirety, leave to
7 stabilization policy the question of how much spending
8 shall be determined in the aggregate for the purpose
9 of accomplishing the goal of full employment."

10 THE COURT: Well, again it's clear that this
11 runs through this whole case like a Catch 22 problem:
12 The person who has to make the decision and consider
13 all of these alternatives lacks the power to do
14 anything logically to achieve all the alternatives.
15 So we have the anomaly of a partially-planned society
16 for environmental purposes, assuming total planning
17 when total planning doesn't exist; in smaller projects
18 it doesn't make much difference whether you have a
19 road here or a road there, it just affects a few
20 people, but when you get to a national project of this
21 importance it shows that the whole policy is really
22 much less -- much more than a facade. It doesn't
23 do very much in the way of carrying it out. It makes
24 a pretense that we are going to do something.

25 The poor Secretary of the Interior is left

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2 holding this bag of pretense that is embodied in the
3 statutes.

4 Now, maybe the courts ought to tell him that he
5 has to act as if the real world were what the statutes
6 said it was. It's awfully hard to do that.

7 Well, continue, let's make the full record.

8 Q All right, Dr. Atkinson, moving on from the
9 discussion of the conservational alternative, do you have any
10 comments, other comments, on the treatment of alternatives in
11 the impact statements and the PDOP's?

12 A Yes, I have a number of other things to say.
13 One of the problems that troubled me about the way in which
14 the various alternatives, supply alternatives, were considered
15 in the environmental impact statement was that they were
16 basically viewed as viable if each or the combination saved
17 ten quadrillion BTU's. The ten quadrillion BTU's corresponds
18 to the potential production over the lifetime on the outer
19 continental shelf of oil and natural gas.

20 And this leads us to statements which are
21 somewhat troublesome. We are told, for example, in the
22 Programmatic Final Environmental Statement in Vol. 2 Section 8,
23 where there is a discussion of the alternatives, that -- that
24 coal, to substitute for gas or oil in power plants, could not
25 account for any more than 20 per cent of the expected OCS

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2 production. And the language gives the implication, well,
3 it's not very important in that context. Or 55 gold -- I
4 mean coal gasification plants -- of a daily capacity of
5 250 billion BTU's, with all of the attendant environmental
6 problems, would be required to replace only half of the
7 anticipated potential production on the outer continental
8 shelf, or that 200 nuclear power plants of 1000 megawatts
9 capacity would be required to replace the entire amount.
10 And then that even under the most optimistic assumptions shale
11 oil could not wholly displace OCS production.

12 It creates troubles in terms of dealing with the
13 basic question of alternative. Lip service only is paid to
14 the combinations, when certainly one could imagine that given
15 all the possible supply alternatives, one could imagine a
16 situation in which some from each of these could possibly
17 substitute for OCS production, and it would make the
18 alternatives look less undesirable.

19 But more important than that --

20 THE COURT: Then he would have to consider
21 the environmental impact and probably have an environ-
22 mental impact statement on the shale reduction process,
23 for example. In a sense, some of the decisions
24 almost get too complex to handle in terms of the
25 variables involved, if you are going to consider all

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2 of these alternatives.

3 THE WITNESS: Well, this is what I -- what I
4 was turning to now, that in point of fact the
5 combinations of alternatives which we might consider
6 aren't going to be the ones that we -- that we will
7 dictate, they are basically the ones that are going to
8 be determined by the market itself.

9 The question of whether electric utilities in
10 -- in our economy will substitute coal for oil or
11 natural gas is partially going to be dependent on the
12 relative prices of oil versus natural gas and also
13 the attendant costs which generally must be incurred
14 in order to be in accordance with the Clean Air Act
15 and other environmental statutes.

16 In addition -- and yet here again we find a
17 situation in which the function of the Government --
18 I mean of the market and the relative prices themselves
19 determining the various combinations and ease with
20 which one fuel may be substituted for another is not
21 discussed adequately at all.

22 In addition --

23 THE COURT: Well, it's not purely a market
24 decision. Shale is, for example, to a large extent,
25 a federally controlled resource.

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2 THE WITNESS: That's correct.

3 THE COURT: So you have exactly the same kind
4 of problem: coal strip mining is a federally controlled
5 resource even though they don't own it because they can
6 impose environmental costs in terms of replacing the
7 land to its original condition.

8 THE WITNESS: I wasn't -- I wasn't trying to
9 argue that it was -- all of it was going to be
10 involved in the marketplace. Relative prices,
11 however, play a very significant role in determining
12 whether or not shale will ever be economic.

13 I can recall years ago where they would talk
14 about the possibility of producing a barrel of oil
15 with shale at around \$4.50 a barrel. Well, that seems
16 to have more than doubled now in terms of some of the
17 expert, you know, witnesses. We wouldn't even really
18 consider shale oil, with all of its attendant environ-
19 mental problems, unless the price of oil were in fact
20 probably even above current price, certainly not with
21 the kind of technology which we have and the kind of
22 -- of savings, you know, which are potentially
23 available with current technology.

24 But I agree with you, I mean there are political
25 decisions, there are technological considerations,

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2 environmental, and in addition also the economic
3 viability is basically determined by the prices of those
4 resources in the marketplace.

5 So he really has to take a rather superficial
6 view of a lot of these other resources, he can't take
7 a fully integrated, sustained analysis of all of these
8 other resources and their costs as against the costs
9 and benefits of this resource.

10 MR. ZEDROSSER: Your Honor, that again raises
11 a legal question, if I may say --

12 MR. HYMAN: Your Honor, the witness agreed with
13 your statement. I wish the Court Reporter to make a
14 notation of that.

15 THE COURT: Well, he was shaking his head up
16 and down. I don't know whether he agreed with it.

17 MR. ZEDROSSER: NEPA specifically requires not
18 only that alternatives be considered in the impact
19 statement under 102(c) but one of the other sections,
20 I think it may be (h) specifically mandates that the
21 agency involved study and develop alternatives.
22 It's one of the strongest mandates of NEPA, as a
23 matter of fact, hard though it may be, --

24 THE COURT: Well, are you suggesting that he
25 should have considered the availability of shale and

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2 that's the trouble I have, is the failure to deal with
3 the market and the fact that we -- we could have done
4 better.

5 THE COURT: Well, maybe the draftsmen were too
6 humble. I suppose in this area a little humility by
7 decision-makers is probably desirable.

8 THE WITNESS: I have -- I have no problem with
9 humility on the part of decision-makers. But simply
10 that we could have done -- we could have got a more
11 adequate assessment.

12 And to the extent that one might disagree with
13 the assessment provided by some of these models, you
14 would at least have a basis upon which to depart from
15 the results. And that's -- that's the basic problem
16 I have with -- with their consideration of the other
17 supply alternatives.

18 Q Did they in fact utilize the methodology in the
19 University of Oklahoma paper/

20 A The University of Oklahoma paper in terms of
21 their discussion of -- of the methodology itself imagined a
22 major action, and if my recollection of it is correct, it
23 did not deal with the specific question of outer continental
24 shelf leasing, it dealt only with the question of I think it
25 was coal gasification plants, or some oil shale plants --

1 I can't remember the precise major action that was considered

2 But then they described how the system could be
3 used in order to assess alternatives to it.

4 Q And did the impact statements use that system?

5 A No, the impact statements did not. The impact
6 statements did, however, refer to the Oklahoma study for a
7 discussion of the alternatives, in view of the fact that their
8 discussions in the environmental impact statements were brief.

9 Q All right, could you then continue with your
10 comments on alternatives?

11 A All right, I -- another thing that -- that
12 basically troubled me in terms of the environmental impact
13 statements was that there was no attention given to the
14 alternative of strategic stockpiling of reserves or the
15 implementation of emergency conservation measures.

16 Now, this is currently mandated under EPCA.
17 There is a program that is in the process of being implemented
18 and being studied for a strategic stockpiling of reserves and
19 emergency conservation measures in the event of another
20 potential interruption, you know, from the Mideast.

21 The question we really have to ask ourselves
22 here is whether or not that particular alternative is perhaps
23 capable of doing the trick, that is of achieving this goal of
24 -- of -- of project independence, and should it ever be
25

1 situation in which to the extent that the bonus bids are
2 lower, to take account of the fact that there are significant
3 exploration costs, the federal treasury is already bearing
4 part of the risk. The federal Treasury is already making an
5 indirect payment, if you will, for the -- for the exploration.
6

7 But more important, the kind of emphasis which
8 they give to the question of added knowledge, saying the only
9 real advantage, with the emphasis on "only" would be the
10 added knowledge, is -- is a little troublesome, because one
11 thing that we as a nation have to face at this point is the
12 fact that our conventional sources of oil and gas supplies are
13 in fact dwindling, and we have to be concerned with the
14 question of how we make an orderly transition from
15 conventional sources of oil and gas supplies to non-
16 conventional sources.

17 Now, one major question that must be answered
18 is the extent of the hydrocarbon resources that we have
19 available to us for the purpose of making such a transition.
20 Now, if it turns out that the resource estimates, especially
21 of the undiscovered recoverable resources, turn out to be
22 relatively low, and if it turns out that there is going to be
23 a very lengthy lead time before we develop the kind of
24 technology and solve the environmental problems, associated
25 with alternative sources of supply, and if in fact future oil

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imports turn out to be as insecure at least most people believe they are today, then knowledge of the extent of the hydrocarbon resources which we have available to us is essential.

If in fact the extent of the hydrocarbon resources which we have obtained by conventional means is relatively small, then this could well call for a somewhat slower pace of development.

On the other hand, if they are very extensive it could call for a somewhat faster pace.

Now, this per se does not necessarily imply that if exploration were to be separated from development that we should rush out and explore, necessarily. I think that we have to engage in the same kind of cost benefit analysis, because there are environmental impacts associated with that.

But if the decision, as I started out saying, if the decision is made to go ahead with the national program, then I think the added knowledge which we obtain is a rather important reason for separating exploration from development.

Now, under the present system the Department of the Interior does not deny the right to produce after hydrocarbon resources have been discovered in commercial quantities. Indeed, and quite rightly, from the point of view of the oil companies, they have a very strong incentive

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2 to develop those resources after having made considerable
3 commitment of capital and labor, and it's rather important,
4 especially if there are relatively stable projected future
5 prices, it is relatively important for them from the point of
6 view of the return on their investment to develop those
7 resources rather than to sit on them and -- and to wait.

8 Now, there is a second aspect associated with
9 this problem of separation of production from expiration, and
10 that deals with this question of whether or not we as a
11 society obtain a fair return, which is required by the
12 Department of the Interior, a fair return for the resources
13 which are owned by the United States.

14 I think there is basically three reasons why I
15 think that we are obtaining a somewhat lower rate of return
16 than we could obtain. On the first instance, if we had some
17 knowledge of the extent of the resources which existed on the
18 outer continental shelf, we would eliminate to a considerable
19 extent many of the uncertainties which now cloud the picture
20 as far as the oil companies are concerned.

21 And to the extent that the oil companies them-
22 selves are risk-averse, they value, they value the reduction
23 in the uncertainty, and that tends therefore to cause them to
24 increase the present discounted value of the economic rent
25 which they could obtain from those hydrocarbon resources on any

given tract.

Under the current system to the extent that firms are risk-averse there are suggestions that they in fact bid below the expected present value of the rent on the tract.

Also it has been suggested that because of the terrible risks that the oil companies have, especially engaging in exploration, which is an exceptionally risky business, that the cost of raising capital tends to be somewhat higher than it is for alternative investments, and therefore the rate at which the oil companies discount the value of the resources on the outer continental shelf tends to be higher, and therefore the present discounted value tends to be lower, through discounting with a higher rate of interest.

And third, there has been a suggestion that the separation itself could increase the level of competition among bidders. It is not the level of competition for production but the level of competition in the bidding process.

As -- as it exists now, it is very difficult for many companies, and especially the small companies, to obtain capital to bid on and explore, but to the extent that we have some knowledge of the extent of the resources out there that could in fact be provided by exploration, then presumably the capital markets could in fact operate in such a way that

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2 resource value of the tracts in question could themselves be
3 some security. It would generally be increased bidding
4 indeed, to the extent that there were tracts that were very
5 rich, and other tracts that were not so rich. We would tend
6 to find substantial bidding begin with that kind of
7 knowledge, and therefore we could tend to find there would
8 be significant pressure to bid away a significant percentage
9 of that economic rent.

10 Now, it is also true that -- and this has been
11 raised in several quarters -- it is also true that the
12 accelerated offering at this time, it has been suggested,
13 could in fact reduce the bids, the bonus bids which were made,
14 and therefore the public would not be guaranteed a fair
15 return for those resources. If we --

16 THE COURT: Again, that wouldn't be a
17 reduction in gross; it would be a reduction per unit.

18 THE WITNESS: Well, except that the way that
19 the bonus fits -- it would be -- well, let's put it
20 this way: To the extent that there is a sharp
21 increase, as there is here, in the leasing of acreage
22 on the outer continental shelf, and to the extent
23 that that imposes considerably on -- an increase in
24 uncertainties on the part of the oil companies, since
25 a complete inability to kind of evaluate the massive,

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2 you know, kind of program, you know, under this
3 accelerated leasing, it has been suggested the increase
4 in uncertainties could in fact lead to smaller bids.

5 THE COURT: Well, I understand that, but you are
6 not suggesting that the total received in any one year,
7 next year or this year, would be less than it other-
8 wise would be if they let it out in smaller units?

9 THE WITNESS: I am -- I am suggesting that
10 if -- that in fact that could happen, yes, the reason
11 being the way in which the system works; that is, it's
12 a bonus bid plus a fixed royalty. Fixed royalty is
13 based on the gross value of the oil that is extracted,
14 so that presumably it will not change to the extent
15 that the expected value of those resources does not
16 change.

17 But what is -- what is somewhat smaller is
18 going to be the initial bonus bid, so that the total
19 value of what goes into the Treasury would be smaller
20 than it would otherwise have been.

21 THE COURT: Well, would the total cash that
22 goes into the Treasury be smaller?

23 THE WITNESS: Oh, no, not necessarily at all.

24 THE COURT: I would think --

25 THE WITNESS: I mean the total cash, I suspect,

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2 would probably rise.

3 THE COURT: No, I mean just in this one year.

4 THE WITNESS: No, I suspect it would probably
5 rise.

6 THE COURT: I would be willing to --

7 THE WITNESS: What we are talking about is the
8 return on these resources. We are talking about the
9 total cash in years previously, but based on a smaller
10 resource base.

11 THE COURT: That's what you are talking about,
12 but that's not necessarily what the Administration is
13 talking about when it is trying to increase during an
14 election year the cash flow so it doesn't have to
15 increase taxes this year.

16 Again, you are talking about it from the point
17 of view of the good of the total economy over the long
18 run rather than --

19 THE WITNESS: Well, I am talking about the
20 requirement -- I am sorry?

21 THE COURT: Rather than the good of the
22 political person who is trying to stay in office.
23 These are factors that it seems to me have to be
24 considered, unless as a legal matter they no longer
25 can be considered. That may be true. I would doubt it.

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2 MR. HYMAN: I wouldn't presume that, your Honor

3 THE COURT: Go ahead. He's a very intelligent
4 witness. He's going to say what he wants to, anyway.
5 Go ahead.

6 THE WITNESS: In response I would say that the
7 environmental impact statements and -- and also the
8 PDOD's do not deal adequately with respect to this
9 question of exploration and development.

10 Fundamentally -- we talked about the possibility
11 you know, the fair rate of return, but fundamentally
12 the real issue in terms of the separation of exploration
13 and development is the fact that with exploration being
14 separated from development we retain control over
15 development. Control over development for two rather
16 important reasons: to the extent that we can identify
17 the extent of the resources on the outer continental
18 shelf we will have a much better idea of the pace at
19 which they ought to be developed in order that we can
20 make this transition away from our conventional energy
21 resource base to non-conventional. And that becomes a
22 very critical issue.

23 And secondly, it will also enable us to have a
24 better idea of the kind of environmental impacts which
25 we might experience by developing on the outer continental

shelf. And it might be possible that with increased knowledge there would be instances where we would argue that it should not be developed, for environmental considerations.

On the other hand, there are clearly circumstances where we might argue that it should be.

My basic point here is that it provides us with control, we do not lose that control, and under current legislation the Department of the Interior does not cease it to stop production after exploration in general.

THE COURT: Your position is that it would not slow down ultimate production if they proceeded this way and decided to proceed expeditiously?

THE WITNESS: Well, there is a serious question about it. Here I have to rely --

THE COURT: Wouldn't it in effect slow things down because you wouldn't have the same people exploring and producing, necessarily?

THE WITNESS: Well, I don't know what particular plan we might adopt in terms of exploration or development. I mean there are various ways in which -- and -- and incentives that might well be provided to those who would currently do exploration,

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2 incentives of -- of all sorts.

3 THE COURT: Well, it would certainly slow
4 things down, you'd have to make another decision on
5 production, and this way you just slide into the
6 whole operation so that the producers, who are also
7 explorers, will produce as expeditiously as they can
8 in order to recoup their lease payments.

9 So if you are interested in fast production
10 this is clearly the way to do it, isn't it?

11 THE WITNESS: I'm not sure we are interested
12 in fast production. I do not know the extent of those
13 resources and I do not know the length of time that's
14 going to be required for us to make a transition.
15 We could develop those resources very rapidly at the
16 moment and find ourselves fifteen to twenty years
17 from now with very, very high-priced energy, with
18 significant environmental problems in dealing with the
19 alternatives that are available, and with not having
20 developed the technology.

21 On the other hand, it might not. But that's
22 the kind of unknowns we are dealing with.

23 THE COURT: That's so general a judgment, you
24 are moving into the political area again, which
25 requires you to engage in the equation of the

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2 possibilities of war, short-term possibilities of
3 shutting off of our oil supplies, either by the OPEC
4 nations or by the Russians sinking our ships, or for
5 whatever reason. These are not purely economic
6 analysis problems or problems that can be dealt with
7 in terms of classic or current economic analysis.

8 And although these factors aren't considered in
9 the various statements, really don't they lie behind
10 the judgments, whether you agree with them or not,
11 that are made by the President and by his chief
12 executive advisors?

13 THE WITNESS: I think -- I think this turns on
14 a very fundamental issue. That is one thing we do not
15 now have in effect is a comprehensive national energy
16 plan.

17 Now, the plan which has been introduced by
18 ERDA, which will no doubt receive a great deal of
19 discussion -- it has already received some discussion
20 -- is a plan that deals explicitly with this question
21 of how do we make the transition and how do we make an
22 orderly transition?

23 Now, it's not clear that this calls for
24 very rapid development now or -- or slow development.
25 In the absence of a national energy policy we have

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2 to ask ourselves where does OCS production fit, and
3 one of my problems in terms of their failure to deal
4 with this question of a national energy plan is the
5 fact that de facto a very important element in OCS
6 production is if we proceed with the national program.

7 THE COURT: But that's true of all these
8 political things. It's true of welfare. If you don't
9 pass a new welfare law you go off on the old system.
10 If you don't pass a full employment law you have a
11 decision by inaction.

12 It was true of the \$2 barrel tax the President
13 put on imports. Congress didn't do anything so he
14 took action. Whether it was right or wrong action,
15 action was taken. If he didn't take that action it
16 would be the equivalent of not putting a tax on.

17 But we are dealing with a decision-maker faced
18 with a Congress, with all due respect, and public that
19 hasn't wanted to face up and reach a consensus on these
20 problems you are dealing with. But that's the way our
21 political system operates, realistically.

22 And if you want everybody to wait until every-
23 body agrees on what a national program should be, then
24 you have also in effect made national policy, which is
25 not to take steps immediately to increase production

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2 of the continental shelf.

3 It doesn't seem to me your criticism really
4 helps a person like the Secretary, who has to make a
5 decision, unless --

6 THE WITNESS: Well --

7 THE COURT: (Continuing) -- the law requires
8 that he wait until this national program be set, which
9 may never take place. There may never be agreement.

10 How are you going to get people in Wyoming to
11 vote for a program that kills their environment and
12 helps the environment of the people from the South
13 Bronx? Very difficult.

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15 (continued next page)
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2 testimony. I think that the -- that the only comments that
3 can be made finally are that in my view the case for the
4 outer continental shelf leasing has not been made.

5
6 There may well be a case, but I find it dif-
7 ficult to extract from the environmental impact statement
8 and the PDOD themselves a case for it.

9 And that is a very difficult decision.

10 Q Other than the spill data that you referred
11 to in the pragmatic PDOD, is there any other testimony to
12 quantify costs in the PDOD?

13 A Not in the PDOD.

14 Q Do you have any comments on the specific use
15 of the \$1 to \$7 cost figure that you refer to?

16 A Well, I have had some trouble tracking down
17 where those figures came from. The \$7 figure, at least in
18 the programmatic PDOD, seems to come from the projected
19 independent's report, although if it does come from the
20 projected independent's report, it was misused, because
21 the projected independent's report \$7 figure in fact
22 represents the maximum price, which price may well exceed
23 average cost, the average price which is necessary to obtain
24 a certain supply.

25 Now, other documents which I have seen from
the Department of the Interior put the dollar figure any-

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2 where as from \$2 to \$5, or there is a significant range.

3 Of course, everybody in this business is
4 hazarding guesses, because we still don't know the magnitude
5 of the resources that are required to do the necessary
6 exploration and drilling and so forth.

7 Q Moving on, then, I will now again briefly
8 read from the deposition of Royston Hughes, the part that
9 has been put into evidence.

10 MR. ZEDROSSER: And I note for the Court's
11 benefit that there is a reference on the page that
12 I am going to read from to Exhibits 9-A and B.
13 Strangely enough, that is also the pragmatic DoD
14 and for mechanical reasons they were two documents
15 marked on that day.

16 Page 132 at line 19:

17 "Question: I refer you to page 4 of the
18 PDoD and to the statement on that page in
19 the bottom paragraph, the costs of OCS oil have been
20 variously estimated to range from \$1 to \$7 per barrel.
21 Can you tell us how this computation was made?

22 "Answer: I think if you observe the footnote
23 on that page, you will find that the basis is there
24 for how that dollar figure is arrived at. The costs
25 of OCS oil referred to in this document and generally

8 tied up with projected independence. I considered it a
1 legitimate consideration to look at the question of projected
2 independence proper, and subsequently an analysis of what
3 the market in fact would yield in terms of outcomes, as far
4 as that specific goal were concerned, in conjunction with the
5 conservation measures already mandated by the environment
6 policy -- excuse me, -- the energy policy and conservation
7 act of 1975.
8

9 Q Well, I am not sure I understand your answer.
10 Maybe I can ask the question this way.

11 A I am sorry.

12 Q That's all right.

13 What I am asking you is this. Do you criticize the
14 environmental impact statement for both site specific sale
15 and the programmatic? The program of accelerated leasing
16 because there was a failure to -- because there was a failure
17 to consider as an alternative to the proposed action in
18 either instance the failure to achieve energy self-sufficiency
19 by date certain by this nation?

20 A I wouldn't have put it quite that way. If
21 I did, I am sorry. What I meant to argue was that the
22 goal of energy independence was not carefully scrutinized.

23 Q As to whether there should be a proper
24 goal for this nation?

25 A

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1 A As to whether or not it should be an
2 appropriate goal because it is a major action, and the
3 attainment of that goal could well involve massive
4 commitments of capital and labor.

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2 Q But isn't the consideration of that as a
3 goal, that is not attaining energy self-sufficiency by a
4 date certain, a matter of consideration by the Congress
5 and by the President and by the executive department,
6 other than the Secretary of the Interior, in connection
7 with this proposed action?

8 A Well, perhaps from a legal point of view that
9 is correct. I-- I viewed it from an economic point of
10 view that it was critical for us to evaluate that goal and
11 the extent to which the market in fact makes a contribution
12 to the satisfaction of that goal. That is an alternative.

13 Q Do you accept as a fact that first of all
14 we do have a current and continuing energy crisis?

15 A That is correct.

16 Q Do you accept as a fact that a greater degree
17 of energy self-sufficiency than we now have is a recognized
18 national objective of the highest importance and priority?

19 A It has been so stated; that is correct.

20 Q Do you accept as a fact that Congress is in
21 its legislation seeking to encourage new or expanded oil
22 and natural gas production in an orderly manner from the
23 OCS areas?

24 A I raise a question of whether it's orderly.
25 That was part of my testimony. Given the fact that I do

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3 not know the extent of the resources which exist there,
4 I do not know the length of time required in order to make
5 the transition from conventional to nonconventional,
6 I don't know whether it's orderly or timely at all.

7 Q But you do accept as a fact that Congress
8 is seeking to encourage orderly exploration in OCS regions,
9 laying aside--

10 A I know--

11 Q --whether you agree that this is an orderly
12 process that we are involved with here?

13 A O.K., I can-- except that I would have put
14 it simply that they are interested in encouraging at this
15 time more rapid development than had previously been
16 scheduled.

17 Q Doctor, can we agree that the programmatic
18 final environmental statement does treat the subject of
19 separation of exploration from development?

20 A Yes, it does discuss it.

21 Q You recall that discussion, as a matter of
22 fact?

23 A I would have to refresh my memory on parts
24 of it.

25 Q I wonder if you would. Would you turn to
Volume II, page 353 of the programmatic and confirm the--

A Volume II, page 353?

Q 353, yes. --and confirm that the subject of the separation of exploration from development is discussed.

A Yes, that is discussed there.

Q And then on page 354, the next page, there is separate treatment, is there not, of the--

A Federal exploratory drilling?

Q --federal exploratory drilling program?

A That is correct.

Q Where the government would initiate the exploration of an OCS lease?

A Yes.

Q Your testimony concerning an emergency storage of energy was offered, as I recall, as an alternative to the proposed action here; is that right, sir?

A I had connected -- Let me step back, so we are--

Q Surely.

A --clear on the framework: What we are concerned with here is the problem of -- and perhaps an alleged problem -- of insecure supply of oil from abroad. Our concern, the motivation behind Project Independence and the motivation of the accelerated development program has been to try to meet in some fashion, to reduce our vulnerability to the insecure supply.

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3 A (Cont'g) More specifically, I have served
4 as chairman of a subcommittee of the New Jersey County
5 Planners Association on Coastal Zone Management.

6 I also served on a committee of the New Jersey
7 Department of Environmental Protection, a task force com-
8 mittee of the Commissioner regarding coastal zone management.

9 Q Would you briefly outline Cape May County's
10 economic and environmental assets?

11 A Cape May County is located -- I guess I should
12 see the lease sale is located about fifty miles east of
13 Cape May County, directly off the shores of Cape May County.

14 The county is shown on the exhibit submitted
15 in the final Environmental Impact statement. They do not
16 show the county as I would view it as Cape May County
17 planning director.

18 I prepared two maps which are the way I see
19 Cape May County. And some of its problems could probably
20 be described by a few comments on the maps.

21 Q All right. With the Court's permission, would
22 you please identify the exhibits that you are referring to
23 and explain the source of the information depicted thereon
24 and describe the contents of the exhibits.

25 A Both maps are developed from data contained in
the Cape May County comprehensive plan. And it has been

Jarner - direct

derived from soils data, from wetlands mapping done by the State of New Jersey and other various sources of data.

More specifically, the map with the area shown in red indicates soil with severe limitations to development in the county, and the map with the green and blue shows wetlands, title, and brackish in Cape May County.

Q Would you, before you proceed, indicate on the larger map behind you which would be Plaintiffs' Exhibit 26 in evidence or in Plaintiffs' Exhibit 27 in evidence, the portions thereon which are depicted in Plaintiffs' Exhibits 65 and 66.

A Cape May County is located on the southern tip of New Jersey, sort of an appendage. And as I indicated earlier, it is located fifty miles west of the proposed sale area.

Q Can you point to the portions of Cape May County that are shown as having soils with severe limitations to development or having wetlands as shown on Exhibit 66?

A Two places are somewhat similar. Certainly, the wetlands have soils with severe limitations. The maps showing soil with severe limitation are solely from a soil mapping, and on it it includes some highland areas which are developed. Yet, they are subject to flooding and do have limitations to development.

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Jarmer - direct

The maps showing areas in green and blue show areas that have been mapped as wetlands by the State of New Jersey. And they also show areas designated as swamplands. In accordance with soil data, both brackish shown in blue and tidal which are shown in green.

Q I show you visual number one, which is one of the maps contained in the Final Environmental Sale 40, Volume 4, and ask you if you would comment on the adequacy of the treatment of Cape May County, and in particular those portions of Cape May County which you have identified as having wetlands or soil with severe limitations to development.

A This exhibit shows some of the areas in the county as having potential recreational and open space areas. They are not specifically shown as areas of wetlands or areas of marsh, or areas limited to development because of soil characteristics.

Q Can you briefly describe the basis of the economy of Cape May County?

A The economy of Cape May County is -- we estimate it to be 90 per cent dependent on tourism.

Now, there are a number of estimates that have been developed. We researched all tax records in the county, for example, to determine the amount of ratables in the county

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Jarner - direct

that were directly related to the tourism economy, such as marinas, motels, restaurants, and estimated that 60 per cent of the ratables of the county are directly related to the tourism economy.

Q Do you have any dollar figures to quantify that 60 per cent figure?

A Well, several figures I think will suffice to quantify the county tourism economy: income from rents, rental incomes, which include camp grounds, motels and seasonal units, which total \$242 million in 1973. Tourist retail sales were estimated to be \$122 million in 1973.

I don't have the figure immediately at hand as to the total number of ratables in the county. Nevertheless 60 to 90 per cent of the influent structure and 60 per cent of the building of Cape May County are related to the tourist economy.

I would add one other interesting -- two other interesting statistics which I think are important. The County's population in the wintertime is from 60 to 70 thousand people. It has been estimated by a number of studies that that population increases some tenfold during the summer, all due to the increase of tourism in the summer.

An additional statistic is that Cape May has more camp grounds than the entire state. It is estimated

Jarmer - direct

that there are some 50 thousand people alone in camp grounds in Cape May County during the summer.

Q Please outline briefly Cape May County's involvement in the OCS issue.

A Cape May County has been involved from the outset, or what we understand to be the outset of the OCS issue. We reviewed and commented on -- in detail on the draft of environmental impact statements. We gave testimony at the hearings that were held at Atlantic City. Prior to that we also gave testimony on the programmatic statement for OCS. After the hearings in Atlantic City we met with the Bureau of Land Management Personnel. We met with oil industry representatives. We met with gas industry representatives. We met with our Congressional delegation from New Jersey regarding the issue.

We reviewed the Final Environmental Impact Statement in some detail. And we also reviewed the stipulations and OCS operating orders which just recently came out.

Q Please tell us the following information, Mr. Jarmer: First, what concerns you raised and how those concerns were dealt with in the Final Environmental Statement for Sale 40, the lease stipulation and the operating orders which you reviewed.

A I would request to refer to some notes that I

Janner-Direct

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MB folio.

THE WITNESS: "We would have-- we would view ¹⁵⁷⁹

that it's improper for the Federal Government to lease land off of New Jersey and not require some form of liability for Cape May County, and its businesses and property owners.

I don't know what form this should be in, but it seems to us in Cape May County that at least the -- there should be something in the stipulation requiring a no-fault liability.

The County residents and business people should not have to sue oil companies to recapture their losses which may be caused by damage from oil.

The third issue that we raised is the question of transportation of off-shore production to the land by tanker barges or lighter.

And we have contended all along that -- that transportation by tankers except in emergencies should be prohibited.

I have heard testimony already to the fact that there is much less of an environmental -- there is much less of an opportunity for an environmental damage from a pipeline than there is from tankers.

Q I believe there is fifty to a hundred fold

1
2 chance, the amount of oil which would be spilled from tanker
3 operations to pipeline operations is in the amount of
4 fifty to a hundred times.

5 The -- the stipulation -- there is a stipulation
6 regarding this, and it states that if feasible pipeline
7 corridors or rights of way can be determined and if it's
8 technically and economically feasible to have such pipe-
9 lines, then crude oil will be prohibited from transportation
10 by tanker except in an emergency.

11 And we would argue and have argued that
12 that's -- that putting in the phrase, the phraseology
13 "Technically and economically feasible" makes the order
14 and stipulation meaningless. We feel it's important
15 enough to pipe it safely ashore, that there should be
16 -- that there should not be out where later one can claim
17 "I can't feasibly or economically do it."

18 Q Did you find either in the lease stipulation
19 or in the operating orders any standards for determining
20 when a pipeline is technically and economically feasible?

21 A No, I did not.

22 Q Do you have any comments to make with respect
23 to the determination of pipeline corridors?

24 A Well, I would say -- and I say get into that
25 in my last area of concern.

Jarner-Direct

3 1
2 The last area of concern encompasses a number
3 of problems that we have with the finalized EIS and the
4 stipulations, and they relate to planning more so than the
5 other arguments do.

6 The finalized does admit that there will be
7 water problems, there are potential water supply problems
8 in the County. It does admit that there will be air pollu-
9 tion problems in the County.

10 It does get into the area of planning and
11 suggests that the Coastal Zone Management Act is the
12 avenue to solve that problem.

13 Yet one of the problems I have as a planner is that
14 I just have no data on which to base first of all, whether
15 we need a pipeline corridor, secondly, where it should
16 be located in regard to where the oil is -- is found, where
17 it's located, and there is just no data upon which I can
18 quantify the need for other on-shore facilities.

19 Now, regarding this problem we have asked
20 in our testimony that adopted regional plans should be
21 required to be abided by by stipulation where they are
22 not inconsistent with the Coastal Zone Management Plan.

23 We are at a crossroads in planning in many
24 areas of the water supply, water quality and waste -- solid
25 waste management, and these problems are being handled,

1
2 will be dealt with at the county level. And it is our
3 feeling that the adopted county plans or regional plans
4 should be required to be abided by by on-shore development.

5 We have suggested that the A95 review process
6 would be one which would be beneficial to use in this
7 regard.

8 That process requires any federal programs
9 involving federal money to be reviewed by the Regional
10 Planning agency responsible for overall regional planning.

11 Q What's the A95 program?

12 A A95 is an OMB circular which required that
13 any time a federal dollar is spent in a program that a
14 regional planning agency has to review that for consistency
15 with overall planning in that region, and that process I
16 think is a sound one, and should be used.

17 We're very concerned that we see nothing in
18 the stipulations that will give local and county and regional
19 government any say in on-shore development.

20 That pretty much summarizes our concerns. I
21 believe you have the statements that we have submitted
22 regarding those concerns. I would say in summary Cape May County
23 has not taken a position flatly opposing drilling.

24 We feel that proper safeguards and proper
25 planning is absolutely necessary in order to protect ourselves.

Q Well, let's assume that you -- you outlined three or four areas of concern where you said that the environmental safeguards are not adequate.

If you got the responses that you desire on those particular issues would Cape May County still nonetheless be opposed to the sale?

A I don't believe they would be opposed to the sale. If the four areas of concern were properly addressed.

Q Isn't it true that one of the concerns which you expressed to BLM was the desire not to have any increased industrialization or urbanization of any kind in your county?

A I don't know if "In" is correct. We are concerned about the urbanization of Cape May County and how it impacts on the tourist and resort economy.

There are some industrial uses which would be welcomed and some development which would certainly be welcomed, but we are concerned with the urbanization and how it could be overwhelmed in certain cases if there were a major find and major industrial facilities were located there.

Q Were you involved in the preparation of the statement that was submitted to -- at the public hearings

1 held in January on the OCS--

2 A Yes.

3 Q -- sale number 40?

4 There was an original statement and then there
5 was --

6 A A supplemental.

7 Q -- a supplemental statement; is that correct?

8 A That's correct.

9 Q I want to call your attention to the last
10 page of the original statement, and referring to the last
11 paragraph of that statement, and I will quote it to you, it's
12 short:

13 "In our comments on the draft generic environ-
14 mental impact statement on the accelerated OCS leasing
15 program, we said that the Federal Government should not sell
16 OCS lease sale areas and ignore the consequences. We stand
17 by that statement. We will continue to resist to the fullest
18 extent possible the attempt to industrialize, urbanize and
19 destroy the environment and resort economy through Federally
20 authorized OCS activities.

21 "The Cape May County Planning Board therefore urges
22 you to withhold OCS sale number 40."

23 Did you write that statement?

24 A Yes.

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2 A Yes.

3 Q Could you describe the nature of the labor
4 force that exists now in Cape May County?

5 A Well, the labor force increases to a large
6 extent during the summer.

7 It's a seasonal economy with 90% of the
8 economy geared to tourism, a majority of the labor force
9 is geared to tourism. I don't have detailed statistics on
10 employment.

11 Q Is there a migratory labor force that comes
12 to the County in the summer?

13 A Yes, there is.

14 Q And then leaves again in the winter?

15 A Yes.

16 Q And would you consider it desirable if, to
17 just hypothesize for a moment, a large petroleum refining
18 plant was built in that County, would that help resolve some
19 of the problems of seasonal unemployment in the County?

20 A Well, no, I don't think it would.

21 Q Would you be opposed to the development of such
22 a large refining plant in your county?

23 A Yes.

24 Q On what grounds?

25 A Well, on the grounds that -- and I'm not speaking

1
2 as an expert -- on oil refining plants, -- but based on some
3 of the statistics on the water usage, on the air pollution
4 that would be created, it would not be a use which would
5 be compatible with the resort type of industry, if you will,
6 that Cape May County has.

7 And the density of that tourist industry on
8 clean air, clean water and a fair amount of open space.

9 Q Well, but aren't there considerable advantages
10 also associated with the development of such a plant for
11 your county, improving the tax base, providing better and
12 fuller employment?

13 A There might be a given municipality which might
14 benefit on a tax base point of view from any kind of
15 large industry, yes.

16 Q But you would nonetheless be opposed because
17 of these environmental concerns that you have expressed.

18 A Yes.

19 Q I believe you testified that some of these
20 limited areas where there are soil problems were already
21 developed; is that true?

22 A Yes.

23 Q Could you describe the extent of development in
24 Cape May County along the coast?

25 A Well, it's better to -- easier to describe it

from this map, which -- the island areas that are not shown in green or do not have streets shown are more practical for -- for all practical considerations fully developed.

Q What's the nature of the development, residential, commercial, industrial?

A It's mostly tourist commercial, motels, hotels, seasonal housing units, marinas. For all practical purposes there is really no industry per se, except the tourist industry, among the island communities.

On the mainland there is very sparse development in most areas, except there are villages along the Garden State Parkway.

Cape May Courthouse is a village, City of Cape May, a little larger than a village. Cape May Point, and some -- several communities along the Delaware Bay.

Q So is the population of the County the resident population that is, concentrated in these coastal areas?

A Yes, the coastal areas and a few villages along the spine of the county.

Q Do you have currently any industrial or commercial zoning in these areas?

A Most of the mainland communities do have

1 industrial zones, yes.

2 Q And to what extent are these industrial zones
3 already developed?

4 A To a very limited extent.

5 Q So that there is vacant developable land that
6 is already industrially zoned in this area?

7 A Yes, there is.

8 Q Are there currently any pipelines located
9 underneath the soils of Cape May County?

10 A Not to my knowledge.

11 Q None?

12 A Well, what kind of pipelines?

13 Q Are there gas utility lines, for example, under
14 the soil of the County?

15 A There are some utilities. I know there are
16 some sewer lines located in the County, water lines, yes.

17 Q What part of the County is sewered, if you will,
18 if you can describe it?

19 A Well, the island communities are all sewered.
20 There is very -- there are limited areas of sewage for
21 Cape May Courthouse and most of the areas shown in the
22 street pattern in Lower Township have sewers.

23 Q And do treatment facilities exist for these
24 sewers?

25 A Yes, there is a treatment plant for Lower
Township and a small treatment plant for Cape May Courthouse.

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Jarner-cross/Jensen

Q I believe that you testified that the population of the county is about 60,000 to 70,000 people in the winter?

A Yes.

Q1 As the planner for Cape May County, I guess, would you like to see a significant increase in the resident population of your county as a result of urbanization and increased industrialization?

A No.

Q So that the system as it exists now, with an indigent population of about 70,000, increasing to 10 times that figure on a seasonal basis, is in your opinion desirable for your county?

A Yes.

MR. LIKE: Excuse me, your Honor. I wonder if the choice of words "indigent population" is the one intended by Mr. Jensen.

Q I'm sorry, I don't know whether they are indigent. Indigenous population. A psychological slip. Perhaps that should be my next question.

Your answer is yes.

A The present population, year round population, is satisfactory.

Q Is there a substantial indigent population in

Jarner-cross/Jensen

Q That you must also be aware of the fact that the two bills which are currently pending, one in the House and one in the Senate, that would amend the Outer Continental Shelf lands Act both provide for this kind of oil spill liability fund or --

A Yes, we testified at hearings on those bills, or on the House Bill.

Q And you must also know that if either one of those bills becomes enacted into law that the oil spill liability fund provisions that we are talking about are going to be retrospective and would affect sale number 407

MR. LIKE: Objection, your Honor. Calls for a legal conclusion on the part of the witness. There is also language with respect to grandfathering sales that had taken place earlier, and this witness is certainly not the person to ask about what the bill means.

THE COURT: Sustained. You can submit the bill if you'd like with a memorandum.

Q You testified that you were unhappy with lease stipulation number 4 concerning the use of pipelines versus the use of oil tankers, and also --

A Yes.

Q (continuing) -- concerning how the pipelines --

1
2 A Yes.

3 Q (continuing) -- are to be laid in the ground?

4 I think that the nature of your criticism was that you
5 objected to the language "technically and economically
6 feasible"?

7 A Yes.

8 (continued next page)
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Jarner-cross/Jensen

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Q So what would you substitute for that?

An absolute requirement that pipelines be used in all circumstances?

A Except in emergency.

Q I don't suppose whether a single oil company would bid on such a lease if the provisions were contained in that form.

A No, I don't.

Q Now, you also testified concerning the problem of location of pipeline corridors, I believe?

A Yes.

Q And is it not true that the EIS final 40 -- the final 40 EIS, in response to probably your comments as well as the comments of others specifically discussing the -- what would be required prior to any approvals being given for location of pipeline corridors --

A Yes.

Q weren't there first studies conducted to determine where the best practical pipeline corridors are?

A That's what the EIS says, yes.

Q After these studies have been conducted and some tentative decisions have been reached concerning the location of pipeline corridors, doesn't it also provide for consultation with the state?

Jarner-cross/Jenson

A Yes.

Q And they asked for their input?

A Yes.

Q Concerning where this location should be?

A Yes.

Q And Cape May County Planning Commission is a subdivision of the State of New Jersey, isn't it?

A Yes.

Q And in addition to that, before these pipelines could -- if assuming that they ever would -- would come ashore of Cape May County, wouldn't they be subjected to local land use controls of the municipalities in that county?

A I don't know. That's a good question. From my practical experience as a planner, I don't know what will happen with local zoning when a -- either a refinery or a pipeline corridor is -- a building permit is requested by the municipality.

Q You mean the municipality might go along with the request?

A That's right.

Q I realize that. But I am asking you, is it subject to that permit process of the municipality?

A It is subjected -- they would have to have

Jarner-cross/Jansen

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3 1 a building permit. I believe they would.

2 Q All right.

3 A That's also --

4 Q Now, as part of --

5 MR. LIKE: Will you please allow the witness
6 to complete his answer?

7 THE WITNESS: I am not sure what happens
8 when the lease is given to industry in an area that
9 is not under the jurisdiction of a municipality,
10 and then as a result of -- as a result of that
11 lease, something has to come ashore. I am not a
12 lawyer, I can't answer whether the local zoning
13 ordinance would apply or whether in view of the
14 industry it would not apply because it was a lease
15 given by the federal government to explore and
16 produce gas and oil. I don't know. That's why
17 in our view there is enough of a question to make
18 that a requirement in the stipulation and it would
19 be a reasonable request.

20 Q But in your experience as a county planner or
21 a municipal planner, has the federal government or any oil
22 company ever succeeded in overriding land use controls?
23

24 A Well, let me say -- well, I --

25 THE COURT: Well, if you don't know, just

Jarner-cross/Jensen

say you don't know.

THE WITNESS: I can't specifically recall.

Q All right. Now I believe you testified that you would like to see a stipulation or order or some sort of requirement imposed whereby adopted regional plans -- I guess county plans would have to be abided by in the context of OCS operations?

A In the context of the onshore development.

Q I believe that you put a caveat on that, which was that so long as these regional plans were consistent with the coastal zone plans that were implemented by the state --

A Yes. I think they would have to be consistent with the state plan.

Q Well, are you familiar with the legislation which was just enacted into law this past week amending the coastal zoning management act?

A Generally, yes.

Q Wasn't the purpose of that legislation to reduce the extent to which the coastal states could affect or delay or inhibit OCS activity?

MR. LIKE: Objection. It calls for a legal statement, your Honor. And your Honor has directed --

Jarner-cross/Jensen

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3 THE COURT: Sustained.

4 MR. LIKE: Your Honor has directed that
5 briefs be served on this very issue. We served our
6 brief --

7 THE COURT: I said --

8 MR. LIKE: And may I say on the question
9 of serving briefs --

10 THE COURT: No.

11 MR. LIKE: You indicated earlier an embarrass-
12 ment because the plaintiff's briefs have not been
13 in and --

14 THE COURT: Excuse me. I don't want to
15 hear this argument. I will get your brief when I
16 get it.

17 Q . Now, in the course of your involvement in
18 these OCS activities, have you become familiar with the
19 program and the way that it is projected to be operated
20 as far as the approval of development plans is concerned?

21 A Generally, yes.

22 Q Then you know it is the intention of the
23 Geological Survey before issuing permits to proceed with
24 development to require the OCS lessees to submit a
25 development plan?

A Yes.

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Jarner-cross/Jensen

Q And that is also is their intention to -- there is a statement in their regulations to submit those plans to the State of New Jersey and other affected control states for their review and input?

MR. LIKE: Objection, your Honor. There is no foundation for making the statement that it is their intention to submit it. The language says, may submit. There is no mandatory requirement. And again this is asking this witness to give legal conclusions as to the meaning of the regulations.

THE COURT: I don't think it's a legal conclusion. He is a planner. He is presumably in contact with others involved.

If you can answer it, answer it. If you don't know, say you don't know.

THE WITNESS: The EIS does indicate -- and I believe the final -- the stipulations require development plans to be submitted. And my only problem with that is that the 30 days -- I recall there being a 30 day period in review. And if local and county governments are to have any input, 30 days is I think totally inadequate.

Q Well, has the State of New Jersey been consulted with the Cape May County Planning Board concerning

JARMOR-CROSS/JENSEN

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3 the development of the coastal zone management plan?

4 A Yes.

5 Q What was the nature of your input into
6 those plans?

7 A Well, we have met on a number of occasions
8 with the State of New Jersey in their coastal zone
9 management program. We have had some differences with
10 some of their approaches to the plan which we hope to
11 try to straighten out.

12 We will be -- I will be putting on a planner on
13 my staff very shortly just for the purpose of the coastal
14 management plans with relation to -- with the relation-
15 ship to OCS.

16 Q So there is an established procedure now
17 or you are in the process of developing one where your
18 county planning will have input into the --

19 A That's a hope on my part. I can't guarantee
20 that.

21 Q But at least so far as the State of New
22 Jersey, they have been consulted?

23 A They have been consulting with us. We
24 have comments on all their proposals so far.

25 Q Just one question. Are you going to
receive any of this -- any of the federal funding directly

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Jarner-cross/Jensen

for this coastal zone management plan?

A It's being passed through the State of New Jersey. And it's expected that a number of New Jersey counties will receive some funds for coastal zone management. Federal funds pass through the State of New Jersey.

Q This special planner that you said you were hiring, is it your intent to perhaps defray some of that expense with these coastal zone management funds?

A Yes.

Q And also the coastal zone amendments that were enacted into law, did they not provide for monies to affected counties such as yours for certain types of

--

MR. LIZE: Objection, your Honor, for the same reasons previously stated.

THE COURT: Overruled.

If you know.

THE WITNESS: They do provide for funds. I think the mechanics of how much and who gets what funds are not clear to me now. I know they do provide for funds for planning and also for impact.

Q I think you testified you were concerned about some of the -- some of the -- or perhaps it would

1
2 In the written statements that I have in front of me -- about
3 the added burdens of the municipalities as a result of this
4 development, the need for additional schools, roads,
5 possibly sewers? Was that one of your concerns?

6 A Yes.

7 Q Would you say that those concerns are being
8 addressed by this new legislation which was just enacted?

9 A They are being addressed, yes.

10 MR. JENSEN: I have no further questions.

11 THE COURT: Any other defendant?

12 MR. LAFITTE: Just briefly, your Honor.

13 May I interrogate from here?

14 THE COURT: Yes.

15 CROSS-EXAMINATION

16 BY MR. LAFITTE:

17 Q Mr. Jaxner, are you familiar with an organization
18 called Clean Atlantic Associates?

19 A No, not directly.

20 Q You don't recall, I take it, a discussion of that
21 organization either in EIC or in testimony at the January
22 hearings which you attended, I believe, at least in part?

23 A I don't recall it. That doesn't mean that it
24 wasn't in the --

25 Q I understand. I'm just curious about your

Thomas - cross/Jensen

was first announced, and subsequently during the summer months in 1975 we became involved directly with the Congressional -- the OCS Congressional Special Ad Hoc Committee on OCS chaired by Mr. Murphy from -- right here from Long Island.

Q And I take it you know Jarmer?

A Yes, I know Mr. Jarmer.

Q And did you work with him with respect to this OCS leasing?

A Originally we did not work with each other in terms of the OCS sale. However in late 1975 Atlantic County, Cape May County and Ocean County did have a joint meeting, in November I believe, where they began to talk about the common impacts, and the result of that was, your Honor, was that three counties did form a committee called the Tri-County Committee to Control Offshore Development, and the reason that the committee was formed was that our counties are facing simultaneously proposed offshore drilling, deep-water ports, and also -- also offshore nuclear plants. All of those impacts are being evaluated simultaneously by the planning board staffs.

In addition to that we have also been faced in Ocean County with another dramatic impact of a proposed, although it's still under study, a very tentative study at

Thomas - cross/Jensen

this point, a proposed nucleus center where there would be twenty to forty nuclear plants located some place in the county, and that study is being conducted, has been conducted by the Nuclear Regulatory Commission for some period of time.

Because of these combined impacts the three counties did get together, and we have begun to look at all of the impacts simultaneously.

We did formalize this committee, and the Board of Freeholders from the three counties have signed, or I mean have adopted resolutions supporting the concept of the tri-county committee, and they have also funded that committee in terms of at this point \$17,000 for each county, a total of \$51,000, for expert witnesses. And this is particularly in terms of nuclear, but there has been discussion recently about expanding that.

So we have been involved, we are involved in a variety of activities, not only OCS.

Q Well, didn't your committee in fact meet with representatives of the Bureau of Land Management, the New York OCS office, in March of --

A Yes, we did.

Q About that time you discussed with them some of your concerns?

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2
3 A Yes, we did.

4 Q How, were you aware of Mr. Jarmer's efforts
5 to get certain figures concerning the tourist trade for
6 Cape May County corrected in the final environmental impact
7 statement?

8 A Yes, we were.

9 Q Well, then, why didn't you make a similar effort
10 with respect to Ocean County?

11 A Some of the information which we had asked
12 for to be included in the final -- final environmental
13 impact study are contained in the study which was provided
14 by Mr. Jarmer. The reference to the total number of season-
15 al homes, for example, that study.

16 I did not see any references specifically to
17 the total number of seasonal homes, and this is from U.S.
18 Census data, incidentally, so it's not -- it's not something
19 which is original.

20 But that is not included in -- in the final
21 impact statement.

22 Q Well, didn't the representatives from the
23 Bureau of Land Management ask you and Mr. Jarmer and the
24 representatives from Atlantic County to submit this kind
25 of information to assist them in preparing a more accurate
final impact statement?

Thomas - cross/Jensen

A Yes, they did.

Q And as the result of Mr. Jarner's effort isn't there a whole section in the final statement, new section, describing the possible impact on tourism in his county?

A Yes, there is.

Q Isn't there every reason to believe that had you so desired and had you submitted the information many of the items that you detailed here would have been corrected and you might have a section in that impact statement for your county?

A The Bureau of Land Management indicated to us in our discussions that they would provide or that they would go to the sources which we would have had to go to for that information, including the State of New Jersey, and including this document that was prepared by Mr. Jarner.

Q And they did in fact take that document and exclude parts of it wholesale in the final environmental impact statement?

A Yes, they did.

Q Now, one small point that I want to clear up: You testified that this establishment Great Adventure alone attracted three million day traffic visitors during the course of an average summer?

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Thomas - cross/Jansen

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2 A Right.

3 Q Where is the establishment located with re-
4 lation to the shore?

5 A Well, the establishment itself is located
6 some distance from the shore. However the data which is
7 provided in the impact statement talks about the County
8 as a whole in terms of resort tourism. This facility in
9 turn generates traffic to the beach areas and vice versa,
10 so that we in effect have strengthened our resort tourist
11 economy as a result of Great Adventure.

12 And -- and again, this -- this is not re-
13 flected of course in the final impact statement.

14 Q But wouldn't it be fair to say that an oil
15 impact on the shore is going to have de minimis impact on
16 tourist trade at Great Adventure, which is nowhere near
17 the shore?

18 A Yes, that's -- that's true.

19 Q Now, you testified that as the result of
20 gasoline shortages and so forth that you were experiencing
21 an upsurge in tourist traffic because of the desire of
22 people to travel shorter distances to get their recreation.

23 A Yes.

24 Q Is that correct?

25 A That's -- that's an assumption that is based

Thomas - cross/Jensen

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12 2 on -- it's not hard, fast data, because I don't -- I have
3 never seen a detailed study of -- of the impacts. We do
4 know in talking to the Resort Tourist Association that through
5 their contacts and through their impressions of what has
6 happened that this is -- this is basically what did occur.
7

8 We also can surmise that from talking to the
9 various resort tourist people who operate facilities, the
10 realtors, the renters, and so on who worked in the County,
11 and there were also various newspaper articles relative to
12 this change and this impact, and it was -- it was kind of
13 an unusual thing I think in the county, because no one
14 really expected at that time, and yet it did occur, and
15 it did occur quite dramatically.

16 Q Let's carry this phenomenon a little bit
17 further. These people from New York and Philadelphia gener-
18 ally drive either in their own vehicles or in buses to get
19 to the beaches in your county?

20 A Or take trains, yes.

21 Q And what would the impact be if gasoline were
22 to go to \$2.00 a gallon on this day tourist travel to your
23 county?

24 A Well, that's the whole point, is that the --
25 in the past apparently there were extensive day or travel
patterns to points quite some distance from the metropolitan

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2 areas. We would expect based on what our experience was
3 in 1973 and '74 that probably there would be an even more
4 dramatic impact, because people again would not travel to
5 distant areas. They would not take their camping trips and
6 their extended trips to other parts of the United States.

7
8 They would probably travel to come very close
9 to the metropolitan area, and this is basically what appar-
10 ently happened in the year 1974.

11 Q But isn't there an outer limit to the phenom-
12 enon, that is as gas becomes more expensive and scarcer,
13 tourism of this type is likely to decline in your county?

14 A Well, not in our county, no, because we are
15 very close. We are within one hour of commuting distance
16 from New York and northern New Jersey, so we would expect,
17 since we are within the sphere and since we do have public
18 transportation to the beach areas, that we would probably
19 still have the same impact.

20 Q Now I'd like to call your attention to a chart
21 which appears on page 479 of volume one of the final forty
22 Environmental Impact Statement, if you can locate it. Page
23 479.

24 A Yes.

25 Q I believe you testified that one of the in-
adequacies which you found in the statement was that it

Thomas - crose/Jensen

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2 it nowhere detailed what the extent of seasonal homes was
3 for your county. Doesn't this chart in fact do exactly
4 that?
5

6 A It does not detail it. It does show the
7 approximate number, if you -- if you can interpret the
8 graph and chart.

9 Q And what is that number?

10 A Based upon -- as quickly as you can-- as best
11 you can determine, somewhere slightly over forty thousand
12 seasonal homes.

13 Q And didn't you testify that forty thousand
14 was approximately the number of seasonal homes in your
15 county?

16 A Yes, in -- in 1970 it was approximately 42
17 thousand.

18 Q Now, you also testified concerning inade-
19 quacies of the United States Travel Data Center model that
20 was used to describe tourism in volume one of the final
21 40 EIS.

22 A Yes.

23 Q Will you turn to that now. It begins at
24 page 458 of that volume. Specifically at the bottom of
25 page 460.

I believe you testified that one of the

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Thomas - cross/Jensen

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3 inadequacies which you found in this discussion was that it
4 failed to take into account this day traffic tourism that
5 we have been discussing.

6 A Yes, that's right.

7 Q But doesn't this statement beginning at the
8 bottom of page 460 specifically acknowledge that this in-
9 adequacy exists in the data that is being employed?

10 A Yes, and this -- this was the basic point
11 that we had with the inadequacy of the final impact state-
12 ment, is that they did not address this and that they did
13 not undertake any sort of an analysis whatsoever of the
14 day traffic impact.

15 Q Well, it identifies that the model which they
16 are using does not take that into account; correct?

17 A Yes, it does.

18 Q And doesn't it also say in the first sentence
19 of that paragraph "Day use at the shore areas in the mid-
20 Atlantic states is very high, particularly on summer week-
21 ends"?

22 A Yes, it does.

23 Q And then it goes on to describe what the
24 economic significance might be of an impact that affected
25 that day traffic?

A Yes, but it also for example includes -- well,

1
2 throughout this whole section on tourism and resort trade
3 the inadequacies of the impact statement are I think contin-
4 ued throughout. There are a number of disclaimer statements
5 made as a result of this study.

6 The problem however is that we still experience
7 in our counties the tremendous impact of the day -- the day
8 traffic, and we take quite exception to statements for
9 example on 460 which state: "Although the economic signi-
10 ficance of individual uses or instances of day use may be
11 small in relation to overnight and/or long-term use, the
12 cumulative economic impact of day use may very well be
13 very important because of the numerically large amount of
14 day use which occurs in the mid-Atlantic coast areas."

15 In our county we would like to see for example
16 some indication of the tremendous impact that that -- that
17 those day users for example do exert on the county.

18 And again, this type of disclaimer or "We
19 don't have the data, therefore it's not important," I think
20 is a mistake.

21 Q Well, wait a minute, is that what the state-
22 ment says, "Therefore it's not important"?

23 A No, they did say that it was important, but
24 again they don't quantify in any fashion, they really don't
25 provide any statement as to the -- the importance of it in

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Thomas-cross/Jenson

terms of the overall economy.

Q But a reasonably intelligent and informed decision-maker reading these paragraphs would be aware first of all of that inadequacy of the data, and secondly that this day traffic tourism was a significant factor in the economy of these coastal counties, a factor which might be adversely impacted by his decision?

A Well, perhaps it may -- in a general fashion, yes, that would be the case.

THE COURT: Could you bring your cross-examination to a close, please.

MR. JENSEN: I have no further questions.

THE COURT: Any further cross-examination by other defendants?

MR. O'HARA: No, your Honor.

THE COURT: Thank you very much.

Have you got a new witness from Atlantic County?

MR. LIKE: No, sir.

THE COURT: Who is the other witness?

MR. LIKE: The other witness is an economist, and he'll testify tomorrow.

THE COURT: All right, thank you very much.

MR. LIKE: I just wanted to ask Mr. Thomas, if I may, your Honor, whether the data which is not

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2 in the final statement with regard to day visitors
3 is data that was available or could have been acquired?

4
5 THE WITNESS: There are some estimates. They
6 are very old estimates related to day traffic, and
7 I think that -- it is -- it is a problem, and I have
8 to frankly state, your Honor, that is a difficult
9 problem, because we did work with DLM on that problem,
10 to try to see if we could come up with some estimates.
11 We do know in certain areas, for example in Long
12 Beach Island, there are estimates that are available
13 of a day -- of a permanent residential population
14 of about 14,000. In the wintertime, or I mean in
15 the summertime that number increases like to 120-some
16 thousand. So we are talking about a factor of ten
17 perhaps in Ocean County.

18 So it is a dramatic increase. We have about
19 270,000 people in the county, and during the --
20 during the day traffic, for example, it could be --
21 in Long Beach Island for example it is perhaps 30
22 to 50 per cent. So it does represent a lot of
23 people.

24 THE COURT: Thank you very much. That will
25 be all.

MR. ZEDROSSER: Your Honor, one brief thing.

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2 I would like to call to the Court's attention that
3 last week Mr. Bialik had mentioned that we had gotten
4 a letter from the Interior Department regarding the
5 items that were made available to Secretary Klappe on
6 Lease S 40 in response to the Court's direction,
7 and Mr. Bialik had pointed out that instead of being
8 told what document the Secretary had relied on we
9 were told what documents he was given, and I'd like
10 to make it known to the Court that this highlighted
11 our original request to be able to examine Secretary
12 Klappe.

13 The Clerk then took that under advisement
14 last week, and I think that I should bring up again
15 that issue now. In colloquy at various times the
16 Court has expressed the fact that he was particularly
17 looking at Lease Sale 40. This highlights the fact
18 that our discovery ironically has been limited to
19 either people here in New York or people in Washington
20 who dealt with the program etc, and not the Lease 40
21 decision.

22 I'd like to call up that once more to see if
23 the Court would rule on that.

24 THE COURT: No, I'm very pleased that you did
25 bring it to my attention.

We will commence tomorrow at ten o'clock.

1 Thank you very much.

2
3 MR. DUDINE: Your Honor, could I speak very
4 briefly on this, Mr. Marek's deposition. I am William
5 F. Dudine and I was the attorney who took that depo-
6 sition, and I believe your Honor has awarded costs
7 to the opposing party, primarily I take it, on Mr.
8 Hyman's representation that the only information
9 inquired into at the deposition was the availability
10 of storage data, which apparently, per Mr. Hyman,
11 could have been obtained from another witness.

12 That simply is not the case. Much more was
13 gone into. We have the transcript of the deposition
14 available. I have it abstracted.

15 Very meaty issues were gone into, far and
16 beyond that. So I would urge the Court to withhold
17 and possibly reconsider its decision.

18 THE COURT: I'll reconsider it. Why don't
19 you give me some papers on it and I'll reconsider it.

20 MR. DUDINE: Thank you.

21 MR. LIKE: Your Honor, I just want to acquaint
22 you with this problem: Tomorrow is the last day for
23 the County to present the balance of its proofs. We
24 have Dr. Newland, who was here today, and we also
25 have Mr. Duncan of the John Wilson firm appearing
tomorrow, but I fear that there will not be sufficient

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1 time to call the remainder of the County witnesses,
2 and consequently I would to submit affidavits from
3 those witnesses and indicate that had they been
4 called to testify they would have testified sub-
5 stantially to the contents therein.

6
7 THE COURT: I'd be very happy to have them.

8 MR. LIKE: I would also ask your Honor to
9 reconsider your ruling barring the testimony of
10 Mr. Rand on the grounds that the door as to foreign
11 capacity and foreign sources was opened by the cross-
12 examination today of the witness by Mr. Eymann and
13 by the industry representatives.

14 THE COURT: I'm not barring Mr. Rand. You
15 can have him here. But I'm not going to give you
16 any more time. I think we --

17 MR. LIKE: You indicated the issue of foreign
18 sources was not relevant.

19 THE COURT: In my opinion it wasn't. I told
20 you you can do anything you want with your five hours.

21 MR. LIKE: May I then offer again as an offer
22 of proof a full affidavit from Mr. Rand giving a
23 complete exposition of the basis for the statements
24 made in my affidavit in support of the preliminary
25 injunction.

THE COURT: I'll be very happy to have that.

1 MR. LIKE: In view of your ruling that you
2 would not permit examination into the question of
3 anti-competitive impacts of the lease sale--

4 THE COURT: I told you again you can use your
5 time for anything --

6 MR. LIKE: Yes, but your Honor, I see no
7 purpose in --

8 THE COURT: (Cont'g) -- any way you want. I
9 told you I'm not at all impressed by it. I myself
10 think you can probably use your time more usefully.

11 MR. LIKE: Bearing that in mind, there is no
12 reason for me to call a witness from California to
13 testify to matters which your Honor has declared
14 to be irrelevant to the issues, and --

15 THE COURT: Well, I'll see your briefs.

16 MR. LIKE: May I give your Honor, then, the
17 affidavits of Rand and Engler.

18 THE COURT: Yes, I'll be happy to have them.

19 MR. LIKE: On those issues which you have ruled
20 not to be relevant.

21 THE COURT: I'll be happy to have them.

22 You haven't shown them to your opponents?

23 MR. LIKE: I'm going to give a copy to each.

24 THE COURT: Well, give them the copies now,
25 and then you can offer them in evidence tomorrow.

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MR. LIKE: All right.

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THE COURT: Anything further?

All right, good night, everybody. Ten o'clock
tomorrow, please.

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THE COURT: All right, call your witness,
please.

MR. LIKE: Dr. Daniel Newlon, please.

THE CLERK: Raise your right hand.

DANIEL NEWLON, having been first duly sworn
by the Clerk of the Court, was examined and testified
as follows:

THE CLERK: State your name for the record,
please.

THE WITNESS: Daniel H. Newlon.

DIRECT EXAMINATION

BY MR. LIKE:

Q Dr. Newlon, please state your occupation and
present position.

A I'm energy research coordinator at the National
Science Foundation and a staff associate in the economics
program. I am an economist.

Q Please briefly state your educational back-
ground and your background in energy economics.

THE COURT: No, don't you have an exhibit?

MR. LIKE: We had a summary of Dr. Newlon's
qualifications in my affidavit for the preliminary
injunction, but I just have a very brief line to
establish foundation.

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THE COURT: All right.

THE WITNESS: I have a BA in mathematics from the University of Delaware, an MSC in development economics from the London School of Economics, PhD in economics from the University of Virginia.

I've worked on energy questions starting in 1972 as a --

Q Continue, please.

A I've worked on energy questions starting in the spring of 1972 as an analyst for the Defense Department, later as a consultant for the Defense Department, consultant for the Center for Naval Analyses, a consultant for the Federal Energy Administration.

A study that I completed for the Center for Naval Analyses was published last year. And I've written articles on the energy situation.

Q In preparation for your testimony, did you review the programmatic PDOD?

A Yes, I did.

Q Did you also review the programmatic decision option document for sale number 40?

A I did.

Q Would you please give us your comments on these documents?

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2 A I was very disappointed. Given the intensity
3 of debates, the large amount of literature in professional
4 journals, I expected a more balanced assessment of different
5 options.

6 More specifically, I was disturbed at the
7 framework used to evaluate the different options, the static,
8 timeless analysis that ignored the future.

9 I was disturbed that the PDOD did not discuss
10 the uncertainty, the range of opinions that exist about --
11 about the different projections that they were discussing. I
12 was concerned about the discussion of the conservation option
13 that I felt was misleading.

14 I was especially upset that the PDOD did not
15 in its analysis address the existence of the Organization of
16 Petroleum Exporting Countries, the producers' cartel that
17 precipitated the so-called energy crisis.

18 Finally -- and this is the reason why I am here
19 -- I felt that there should have been some discussion of an
20 important option, the use of the outer continental shelf as
21 a standby production capacity, to use the term that was
22 surfaced yesterday by Mr. Hyman, an oil weapon to deter price
23 increases and embargos in the future.

24 And this is an option that I discuss in my book
25 and I presented in 1973 in testimony to the CEQ, the Council

on Environmental Quality.

Q Would you please take each of your concerns and give us the basis for your opinion as to inadequacy in each particular instance.

A The programmatic PDOD contrast the cost of producing oil from the outer continental shelf with the cost of conservation. Their proxy for this cost or measure of the cost is the current price of oil, with the cost of energy from different conventional and non-conventional sources and the cost of continuing to import oil at present levels or at an increasing level. These cost estimates are adjusted to include a discussion of environmental costs.

The conclusion that the PDOD reaches from this comparison is that the oil from the outer continental shelf would be cheaper than energy from alternative sources, and there would be the same or even less degradation of the environment from the use of -- use of the oil from the outer continental shelf.

My first concern is that this analysis completely left out the future. There is no discussion of the cost of using oil now, the cost to future generations of using up an exhaustible resource.

In a competitive market a businessman weighs the profits that he can secure immediately from producing a

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2 resource that he owns and selling it. He weighs that, sets
3 that against the profits that he could secure in the future.
4 He also includes the rate of return on the investments that
5 he could make if he produced the resource, and the resource
6 now and invested the proceeds.

7 If he feels that it's more profitable to hold
8 the resource off the market in anticipation of an increase in
9 price, then he will do so. This will decrease the supplies
10 of the resource now, driving down the price,-- excuse me,
11 pushing up the price. It will increase the availability of
12 the resource in the future, thus decreasing future prices.

13 Is the way the market in effect compared the present with
14 the future.

15 Now, we are talking in the case of oil on the
16 outer continental shelf not about a resource that's privately
17 owned but a resource that's publicly owned. We are talking
18 about a decision process in which the government is going to
19 lease for development -- and as you know, presently we can't
20 distinguish between leasing for development and leasing for
21 exploration -- the government leases for production oil on
22 the outer continental shelf.

23 Now, what I think the FDOD should have done was
24 to do the same type of comparison that a private businessman
25 does, to compare the profits that would be secured in the

future from holding the oil off the market, that is the benefit the future generations economically from the oil, with the profits to be secured right now.

Q Excuse me, Dr. Newlon --

A Yes?

Q -- in your opinion would a prudent businessman have made such comparison of present and future?

A Yes.

Q Would a prudent administrator charged with the administration of a public resource have been required to make such comparison?

A Yes.

Q Continue, please.

A The second concern that I raised dealt with the conservation options. The PDOD contrasts the cost of producing oil on the outer continental shelf with the price of oil. The price of oil is the measure of the cost of energy conservation.

Now, there are two problems with this comparison: First of all, the use of the current price of oil as a measure of the cost of energy conservation neglects the distinction between the short run, where it's difficult to make adjustments, where time is -- you are not allowed the time necessary to adjust, to shift, where you have made

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2 investments based on past information that turned out to be
3 wrong, and the long run.

4 Let me give you an example: If the government
5 was suddenly to limit supplies of gasoline to me to 10 gallons
6 a week there would be a very substantial cost, because I have
7 a gas-guzzling station wagon and I would have to cut back
8 significantly on my use of the automobile.

9 If the government announced that in three years
10 or two years the supplies of gasoline would be limited to
11 ten gallons per person, then I would purchase a much smaller
12 car, a car that -- that -- 30 gallons, 40 gallons -- 40
13 miles to the gallon.

14 So the limitation on the supplies or
15 availability of gasoline would not have nearly the impact or
16 cost to me in the long run that it would have in the short
17 run.

18 In the same sense --

19 THE COURT: Well, I don't credit that example.

20 That's not what would happen. If the Government
21 announced now that in three years it would reduce
22 gas allocation to \$10 a family, there would be
23 immediate pressure from the public and from others to
24 withdraw the limitation, and you'd never have it in
25 effect. There are three elections between now and

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three years. I mean that's not an option that the Secretary of the Interior could reasonably consider. I just don't believe it's a realistic --

THE WITNESS: I'm not recommending --

THE COURT: I don't believe it's a realistic example.

THE WITNESS: Okay, the purpose of the example was to illustrate the difference between long run and short run, and you will see in my next point that the purpose is to show that this estimate of the cost of conservation, the cost of taking a number of steps listed in PDOD and the Ford Foundation project that are politically palatable and that the government is moving in some cases to take, it is that the cost is not nearly as great as is estimated in the PDOD.

I'm not suggesting from this example that the government should limit supplies of gasoline --

THE COURT: No, I'm not --

THE WITNESS: -- to \$10.

THE COURT: I understand that you are not suggesting that, but it's a good example because it shows the problems that the secretary faces when he deals with present factual situations, as against projections into the future, where those projections

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are not natural projections in the sense that only nature can control them, with all the probabilities there, but where political factors, not only internal political factors, but foreign political factors, possible wars and possible boycotts, may have a bearing.

THE WITNESS: I think --

THE COURT: That means that he has to discount to a very large extent, doesn't it, the future?

THE WITNESS: But I would go along with this point, but notice that the PDOD itself doesn't go through the energy conservation options that are available and assess the political feasibility or the lack of political feasibility of the major options.

THE COURT: Well, why would it do it with a secretary who is fully aware of that, where he has been dealing with Congress over two years that Congress has done nothing --

THE WITNESS: Well --

THE COURT: -- of any significance?

THE WITNESS: Well, this is where the disclosure aspect comes in. I suspect that if the PDOD listed and went through a balance assessment of the different options and said "This is politically infeasible," that they

2 would find that things that they are implicitly
3 assuming politically infeasible turn out not to be
4 politically infeasible.

5 THE COURT: Well, how would he know?

6 THE WITNESS: But -- the way to find out is to
7 test --

8 THE COURT: But how? He has to make a decision
9 now. If he decides now that realistically it doesn't
10 pay to even consider this, because he doesn't know
11 what Congress is going to do, when he's got to make a
12 decision before Congress acts, what is he going to do?

13 THE WITNESS: The point -- now I'm moving from my
14 area of expertise, which is economics, into an area of
15 law, but my understanding is that -- of the disclosure
16 aspects is that what you are trying to do is to change
17 the government decision-making process so that
18 assumptions in the decision-making process that may
19 be incorrect that are the basis for making decisions,
20 like the unconscious or implicit political judgments
21 which you are referring to, become explicit, come out
22 in the open, are surfaced. Then we can see the
23 basis for a judgment.

24 If the PDOD surfaced arguments such as this
25 cost comparison, which have nothing to do with the

1
2 actual decision, then it's a charade. It's the type
3 of ticket punching that wastes so much time in the
4 government.

5 What the PDOD should tell us is why the
6 conservation option is not being vigorously pursued.
7 It's not because the cost of conservation is greater
8 than the cost of producing from the outer continental
9 shelf. That comparison is misleading and wrong.

10 Perhaps it's because of political feasibility,
11 although there are a number of proposals in the area
12 of conservation that states have adopted, individual
13 states have adopted and that European countries have
14 adopted, and politicians, I would argue, are finding
15 that the politician who is bold on this matter and
16 asks for sacrifices, admits that there is an energy
17 problem and calls for the steps which the Europeans
18 have taken a number of years ago in terms of the cost
19 of gasoline and the accessibility of energy, are
20 finding not that they are being turned out of office,
21 but people are responding to this.

22 So in response to your point I would say your
23 argument is a criticism of this PDOD. The PDOD
24 does not tell us the basis for the secretary's
25 decision. It does not tell us the evaluation process

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2 that went on in the energy conservation option.

3 THE COURT: Well, supposing the PDOD had said
4 "We haven't considered the massive conservation that
5 would be required because this will necessitate new
6 laws and action by Congress, and there is no way of
7 predicting what Congress will do"? Would that have
8 sufficed?

9 THE WITNESS: No, because I believe there are
10 a number of conservation options. Again the Ford
11 Energy Policy Project listed a number that can be
12 taken in the private sector with encouragement, moral
13 suasion on the part of government, that can be taken
14 by administrative action, that don't require action by
15 Congress.

16 And then finally there are actions --

17 THE COURT: Well, administrative action is also
18 political. That's the President.

19 THE WITNESS: Yes.

20 THE COURT: And the President doesn't feel that
21 he ought to act in this area.

22 THE WITNESS: What I would have liked to have
23 seen here is, again coming back to -- to your -- your
24 point --

25 THE COURT: I'm not making a point, I'm just

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raising a question.

THE WITNESS: Yes, the -- the fact that something is political doesn't mean that people can't debate it and discuss it rationally. The -- you can list and evaluate and shift the discussion of political feasibility from a shadowland of hunches and gut feelings to an explicit discussion of what the different options are, what the costs and consequences of each of the different options happen to be, and then what the factors are about each options that make it politically promising and politically feasible.

(Continued next page.)

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2 THE WITNESS: (Continuing.) And then you can
3 come up from this analysis with a conclusion that
4 energy conservation, although theoretically it's an
5 attractive option in the short term, is just
6 politically infeasible because of the cost to
7 different sectors of the economy and the lack of
8 willingness on the part of these different groups who
9 bear these costs.

10 Now, this serves two purposes. One, it
11 advertises the true ground or reasons for making a
12 decision and informs people about the -- what decision
13 makers perceive as the important factors, important
14 costs, and the result might be an educational process
15 where people who would react strongly and adversely
16 if a conservation message or proposal were suddenly
17 imposed on them in finding that the energy problem is
18 persisting because this option can't be implemented
19 because, supposedly, their blocking it would react
20 and respond by saying that if the following compromises
21 are made we will shift from opposition to support.
22 This also will serve the purpose of informing decision-
23 makers.

24 I suspect, in my own dealings within the
25 government, I found that the political argument is

1
2 often used as an excuse for sloppy reasoning. People
3 sit back and say, "Newlon, you know, that's fine in
4 theory."

5 Or, "Your numbers look okay, but it's not
6 politically feasible."

7 I participated in one committee in the Federal
8 Energy Administration dealing with the regulation,
9 the entitlement system, and we were discussing the
10 deregulation option. And I was told that deregulation
11 was politically infeasible, that it couldn't be accepted,
12 despite the fact that almost every agency outside of
13 the Federal Energy Administration, the head of the
14 Treasury, were condemning the Federal Energy
15 Administration for not eliminating the price controls
16 on oil.

17 The political area can be scientifically
18 discussed, can be rationally discussed. These concerns
19 can be surfaced. Numbers can be attached to them.
20 And they are not done in the PDOD. That's why I was
21 very upset by the PDOD.

22 It is not -- it's a sop that is being thrown
23 out that complies with or attempts to comply with the
24 letter of the law, but doesn't deal with the spirit of
25 the law, which is to show, disclose the basis for

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2 decisions, to force the decision-maker to think
3 carefully about these bases. And in the political
4 area there is just no discussion in analysis at all.

5 An undergraduate in political science could
6 do a better assessment of the political factors than
7 exist in the PDOD.

8 Now, if I could, I'd like to return to this
9 point on the comparison, although I would agree with
10 you, possibly it is a moot point. It's clear that
11 the Secretary of Interior didn't decide based on this
12 comparison not to emphasize the energy conservation
13 option. But for the sake of the record, let me show
14 why that comparison is misleading.

15 Again, there is a large body of literature
16 dealing with the future. How can the economy adjust
17 to over a 20 or 30 year period to energy conservation,
18 to a gradual constriction in the supply of energy.

19 Now, there are two views of the future. One
20 view of the future holds that technology adjusts with
21 long term. And that if you cut something as essential
22 as fossil fuels, reduce the supplies of fossil fuels,
23 there's going to be a dramatic foul-up in the standard
24 of living of the typical American. Problems that
25 right now seem important, groups that seem significant

1
2 the political problems that we have right now, these
3 people argue in five or ten years are going to pale.
4 When we consider the political problems of a shrinking
5 pie and the resistance of different groups to the
6 problem brought on by the transition from limited
7 fossil fuels to much more expensive and probably
8 infeasible alternative energy sources, these people
9 argue that by postponing the hard decisions we are
10 going to make the future even more politically
11 difficult and even more untenable.

12 And this is where the future comes in. This
13 is where the risks come in. There should have been
14 some consideration in the PDOD of this worse case
15 situation.

16 In accelerating the leasing of the outer
17 continental shelf, are we making decisions right now
18 with a probability of 10 percent or a probability of
19 5 percent that in 5, 10 or 15 years are going to prove
20 to be disastrous.

21 That point is not surfaced in the PDOD. That
22 whole body of literature is completely neglected. It
23 isn't even discussed. And I think this is a shameful
24 omission.

25 On the other hand, if you look at the more

1
2 optimistic, and I would say the more probable
3 scenario, here is where you have to deal with the
4 energy conservation long run ability to adjust to
5 energy conservation options.

6 The Hudson-Jorgerson model, which Dr.
7 Atkinson referred to or discussed last -- yesterday,
8 is one of the most authoritative models in terms of
9 its projection or prediction of the future. Now,
10 there are problems with the model. But what that
11 model shows is that over a 20 or 30 year period, the
12 cost of energy conservation, the adjustment costs,
13 average out and virtually disappear, and that a
14 zero energy growth scenario by the year 2,000 would
15 leave us with a gross national product capita income
16 that is not significantly different from the gross
17 national product that we would have if we continued
18 along the present scenario of trying to develop an
19 explicit -- the fossil fuel sources, that we have to
20 keep significant gap levels from the level that the
21 market demands and the level of supplies that are
22 available domestically.

23 THE COURT: But even if you have a zero energy
24 growth, you still have a substantial national deficit.

25 THE WITNESS: Yes.

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2 THE COURT: It's just a question of how wide
3 the deficit is. But even assuming zero energy growth,
4 the Secretary still would have to decide, would he not
5 on the basis of the self-sufficiency, desirability.

6 THE WITNESS: What we have is a deficit. There
7 area series of conservation alternatives. The
8 question is, how do we spring the deficit. Where do
9 we start.

10 THE COURT: He still has a deficit under any
11 event. There is nothing inconsistent --

12 THE WITNESS: No.

13 THE COURT: -- with offshore development and
14 conservation and zero energy growth. We are now
15 importing. We have zero energy growth. We are
16 importing about half of our oil and we are rapidly
17 running out of gas.

18 THE WITNESS: The issue is, where do you turn
19 first to spring your deficit. The secretary is
20 turning to the PDOD, not to a situation where he
21 describes energy conservation and says, here is how
22 far we can push energy conservation to zero energy
23 growth. And here is what is left. And now that we
24 pushed energy conservation as far as we can, let's
25 turn and push the outer continental shelf because the

1
2 case remains for developing the outer continental
3 shelf.

4 THE COURT: Isn't that the situation? Here it's
5 going to take three or five or seven years to
6 develop. So he's getting this thing started to get
7 future energy from the outer continental shelf. There
8 is no inconsistency between that -- between that and
9 energy conservation. Congress tomorrow can pass all
10 the bills that you would like them to pass, and still
11 with energy conservation and offshore continental
12 shelf development we will have a deficit.

13 THE WITNESS: Certainly they can. The point --

14 THE COURT: Given the size of the deficit and
15 the desirability of self-sufficiency, really, what has
16 all of this analysis got us? The discrepancy is so
17 great that it's almost irrelevant. You've got a
18 problem where you're trying to cover a rug with a little
19 handkerchief.

20 THE WITNESS: No, I am trying -- I am going to
21 betray my ignorance of the four energy policy projects.
22 But I thought that the zero energy growth scenario was
23 offered as an alternative to the -- what they call the
24 status quo. And the technology fix scenario, what
25 they were arguing --

2 THE COURT: I don't know anything about these
3 things.

4 THE WITNESS: That conservation option would
5 not leave -- if you are reducing it to zero energy
6 growth, not leave a deficit of the proportion that
7 would be unacceptable.

8 THE COURT: We have now 50 percent deficit in
9 oil and with zero energy growth and gas. And that
10 apparently means from what we have heard a growing
11 deficit in gas. Gas will not -- will simply not be
12 available during the time frame you are talking about.
13 So I just don't see any inconsistency here between
14 proceeding on both lines. It just seems to me that a
15 lot of this is almost irrelevant.

16 It would all be nice to have a discussion and
17 a fully formed document, an academically acceptable
18 document. But really what would it have to do with
19 any practical decision-making.

20 THE WITNESS: Again, what we are discussing is
21 an analysis which the PDOD didn't perform. And what
22 you're saying is that if the PDOD had again done a
23 satisfactory job, that their analysis would show that
24 even using the most -- using politically acceptable
25 and palatable conservation options or even taking

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1 dramatic steps in the energy conservation area, that
2 leasing the outer continental shelf would be necessary
3 because the deficit would grow to unmanageable
4 proportions otherwise.
5

6 And I am saying that that's not obvious to me.
7 That development of alternative fuel sources combined
8 with vigorous conservation options would not produce
9 a satisfactory situation.

10 On the other hand, I will be frank. It's quite
11 possible that the analysis would show that we needed
12 to lease the outer continental shelf.

13 THE COURT: But your position --

14 THE WITNESS: At some time.

15 THE COURT: Your position is that if they did
16 that and he showed the discrepancy wasn't as great,
17 he might say, it's better to keep this for future
18 reserve than to use it up now.

19 THE WITNESS: Now, this brings us to the point
20 I was going to make. Look at the implication of the
21 model which you think this analogy would show. If we
22 don't move to zero energy growth, or even if we do,
23 this shows us a situation in which in the future the
24 -- if the future that we are moving toward, 1985, 1990
25 1995, is one of enormous deficit, so the question

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2 becomes one of the timing of the release of oil from
3 the outer continental shelf. When is the optimum
4 period to lease it.

5 This is again something which can be the
6 subject of rational debate. We can put our assumptions
7 out on the table, analyze, given politically palatable
8 conservation measures, the size of the deficit, and
9 then examine the impacts of holding the oil back and
10 leasing it later, or leasing it now. And this is
11 another analysis that I don't see in the PDOD.

12 THE COURT: It's the ant and the grasshopper
13 analysis.

14 THE WITNESS: And again I don't believe
15 personally -- and Dennis Meadows thought it was
16 because of my bias as an economist -- I don't believe
17 the projection coming out of the Dartmouth Energy
18 Model -- I think the economy is much more resilient
19 and able to substitute. But I am concerned about it.
20 I'm concerned that we will find ourselves in the
21 future regretting decisions that we make now, decisions
22 that seem sound. And I would like to see someone who
23 is representing me and making this decision at least
24 consider this possibility that we are being spend-
25 thrift, that we should postpone and lease at a later

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2 date.

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3 This raises another concern which I have. And
4 this is the neglect of the organization of petroleum
5 exporting countries. The assumption in this model
6 analysis is that the -- that OPEC doesn't exist; that
7 we can accelerate the leasing of oil or we can hold
8 the oil -- hold back oil supplies and it will have no
9 impact on future prices.

10 Now, that assumption is clearly wrong. There
11 is a cartel. And in the cross-examination yesterday
12 the argument was advanced that we need to accelerate
13 the leasing of the outer continental shelf oil in
14 order to break the cartel.

15 THE COURT: I don't think that was the argument.
16 That wasn't the argument. As it developed, the point
17 was that assuming OPEC would be willing to withstand
18 a cut in its sales and maintain prices, you wouldn't
19 have a break in price until your internal production
20 was self-sufficient. That was the point that was made.
21 Not that it wouldn't have an impact.

22 THE WITNESS: That strengthens the argument I
23 am going to make. The argument that I am going to
24 make is that the most realistic scenario shows that
25 it's politically and economically infeasible to be

1
2 completely self-sufficient. And this is recognized
3 in most of the analysis.

4 The usual issue is not how, when do we get
5 imports to a zero level, but when do we reduce imports
6 to a politically acceptable level. When do we reduce
7 the deficit to the point where 50 percent is our oil
8 supply, our energy is not coming from overseas
9 sources.

10 This is a concern which I have. I think many
11 of our problems are due to a model of analysis that
12 ignores the existence of cartels, a monopoly. An
13 analysis which views oil from overseas as the oil of
14 last resort. We are not going to use Arab oil unless
15 we have no choice.

16 Now, unless the absence of the Arab oil will
17 mean a major run-up in costs or major disruption of
18 the security of our economy.

19 Now, I think this is a very dangerous
20 approach.

21 (Continued next page.)
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2 THE COURT: Well, it's true it's dangerous
3 economically, but there again it's politically
4 realistic.

5 THE WITNESS: It's dangerous politically, too,
6 isn't it?

7 THE COURT: Well, that is a question for the
8 President and the Congress and the Secretary of State
9 and indirectly the people to decide on. But it's not
10 purely an economic one. If it purely were an economic
11 problem, clearly we would be better off importing as
12 much as we could at the lowest possible price and let
13 the market determine everything.

14 THE WITNESS: But wouldn't we be better off --

15 THE COURT: But we are dealing politically with
16 a problem of being at the mercy of Arab states and
17 indirectly of the Russians, I suppose. That is what
18 is concerning many people.

19 THE WITNESS: But if we are going to be at the
20 mercy -- that is, severe economic disruption of the
21 Arab states, in the scenario -- both scenarios, a
22 scenario that is being sold to us on the grounds of
23 insecurity and the need for national security, that is
24 a scenario of rapid development of the outer
25 continental shelf and rapid production from the

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2 remaining sources of oil that exist within the United
3 States and within areas of the United States that we
4 command. If that scenario leaves us still vulnerable
5 to cuts in oil consumption of a couple of million
6 barrels per day, which if -- which would cause a
7 significant disruption of the economy --

8 THE COURT: I know. But you can live with that
9 more readily if you have more oil coming in internally.
10 Clearly, the -- if we get into a war situation or a
11 blackmail situation, we can live with it easier if we
12 had more internal resources. That seems obvious.

13 THE WITNESS: The scenario that I would like is
14 a scenario in which we allow imports to increase, as
15 long as the imports are replaceable in the short run
16 from oil stores, and in the long run from policies
17 like the accelerated leasing of the outer continental
18 shelf.

19 THE COURT; But what you are suggesting is that
20 we develop the outer continental shelf and hold it in
21 reserve.

22 Well, tying up that amount of capital from
23 private firms is really not a practicable alternative,
24 is it?²

25 THE WITNESS: If you do as need suggests, that is

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2 actually drill the well and have them in place --

3 THE COURT: Drill the well, put up the platforms,
4 put up the delivery system, you are dealing with
5 investments of tens of millions of dollars. Who's
6 going to put up the money?

7 THE WITNESS: That is clearly unfeasible. If
8 you do as I have suggested in the CEQ hearings, and
9 that I am suggesting here, that is, you explore the
10 outer continental shelf. You develop standby
11 production plans. You do not actually drill the wells
12 and shut in the oil. You have oil storage and
13 vigorous conservation plans that will tide you over
14 for a two- or three-year period while the wells are
15 being drilled, while the outer continental shelf is
16 being developed. Then you're talking about a
17 different situation where the cost comparisons are
18 different.

19 What you are shooting for is a price-sensitive,
20 and embargo-insensitive demand for Arab oil. A
21 situation where an embargo and a price increase cost
22 the Arabs something. They lose half their market in
23 the United States, or even more of their market. Why?
24 Because the price increase in the embargo brings onto
25 the market over a three- or four-year period oil

supplies that have been held off the market.

Now, if we follow what is being recommended to us in security grounds on bring on the oil regardless of what the oil exporting countries do, then we don't have any oil weapon -- to use the term that was used yesterday. We don't have any oil weapon in 1980 or 1985.

THE COURT: I know. But nations live from day to day just like people. In 1985 we will have an entirely different government in being here and they may feel that survival until 1985 suffices. You have a longer --

THE WITNESS: Time horizon.

THE COURT: (Continuing) -- time horizon than the people in charge.

THE WITNESS: Well --

THE COURT: You may be right or they may be right. But I find this all very interesting.

MR. BIALIK: With all due respect, I think our point is that NEPA requires that Government think in terms of long-range, consider long-range options.

THE COURT: You may be right in this context. I look forward to your brief in the context of the hearing.

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2 MR. BIALIK: It is not a question of the
3 SEcretary reaching a snap decision, that we have got
4 to do this now. He does have to consider the
5 alternatives and study them.

6 THE COURT: It is your position, I take it,
7 Mr. Newlon, that the PDOD has to be considered as an
8 integral part of the impact statement.

9 THE WITNESS: Exactly.

10 THE COURT: And the impact statement cannot be
11 understood without considering the PDOD; is that it?

12 THE WITNESS: Yes. And my concern has been all
13 along with the lack of imagination in the area of
14 energy policy and the unwillingness to consider --
15 consider options. And outside of a few set options
16 which surface over and over again in the debate. And
17 I have raised repeatedly within the government and
18 outside the government this option. And repeatedly I
19 have had the same response. And this is -- and the one
20 that I got at the CEQ hearings was that everybody
21 leaned back and said, "My, that's interesting. Sounds
22 very plausible. Why don't you come down and talk to
23 our staff?"

24 And so I go down and talk to the staff. And
25 they say somebody should do a simulation of this and

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BY MR. LIKE:

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Q Dr. Newlon, would the criticism which you have leveled against the programmatic PDOD also apply to the PDOD sale 40?

A I believe so. Yes.

Q Do you regard either of those documents as of usefulness to a decision-maker?

A AS I said before -- and it came out and I think it surfaced very well in the discussion -- the actual considerations that entered into the decision-making process are not in the PDOD. I think that the PDOD is -- in a way gives us the illusion of an analysis, an illusion of a cost benefit comparison. It's not done well professionally and it masks the real issues that determine the decision. And I think those real issues should be surfaced and can be surfaced in a rational objective fashion.

Q In your opinion, would a prudent administrator charged with the administration of the public resources of OCS lands be justified on the basis of the PDOD's in making a decision to accelerate OCS leasing and in particular making a decision to hold the sale 40?

A No.

THE COURT: I don't think your question is general enough, just for the record, because you

Newlon-direct

1 haven't included these other documents he had before
2 him.
3

4 MR. LIKE: I am sorry, your Honor. The question
5 should --

6 THE COURT: Unless the witness is testifying
7 that the PDOD is the only thing that he -- that was
8 worth relying upon. I just don't understand the
9 nature of the question.

10 MR. LIKE: The nature of the question, your
11 Honor --

12 THE COURT: There is a serious issue as to
13 whether the PDOD is a relevant document here.

14 Q To the extent, then, that the PDOD was used by
15 the decision-maker as a document upon which his decision was
16 based, I put the same question to you.

17 A My answer is the same, no.

18 MR. LIKE: Your Honor, I would like to offer
19 in evidence the book which develops more fully
20 Dr. Newlon's position with respect to the oil security
21 system.

22 THE COURT: All right. Mark it in evidence.

23 THE WITNESS: Let me add something that is
24 obvious -- or should be obvious, but I forgot to note
25 it in the beginning. I'm not here in an official

THE COURT: (Continuing) -- responsive.

THE WITNESS: (Continuing) -- was that given consumption of 18 million barrels per day and imports of 6 million barrels per day, we -- and diversion to -- to Europe and Japan, we expected 2 million -- a reduction of some two to two and a half million barrels per day in oil supplies in a really severe embargo.

But as I say, those figures were estimates prepared awhile ago, two years ago - and the figures probably need to be updated.

Q Am I correct, though, that we are importing now from Arab OPEC one million out of the total of 18 million of consumption?

A That's -- that's my understanding.

MR. BIALIK: Thank you.

THE COURT: Any cross-examination?

CROSS-EXAMINATION

BY MR. JENSEN:

Q Now, Mr. Newlon, I didn't catch where you said you were currently employed?

A I work for the National Science Foundation.

Q And is that a governmental agency?

A Yes, it's an independent governmental agency.

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2 and this was in response to a question from the Court --

3 A Yes.

4 Q (Continuing) -- the PDOD has to be considered
5 an integral part of the impact statement. That was the
6 question posed to you, and I think your answer was yes?

7 A I don't recall that -- that exchange.

8 Q Well, is that your opinion, that the PDOD has
9 to be considered an integral part of the impact statement?

10 A My understanding -- we have gone through my
11 understanding of what the PDOD is and it isn't. I can
12 rehash that --

13 Q No, all I want to know is what your opinion,
14 if you gave one, would be based on this kind of understanding
15 that you just testified about?

16 MR. BIALIX: Your Honor, I object. I don't
17 think there is any relevance to what this witness
18 thinks on this question.

19 THE COURT: Overruled.

20 MR. JENSEN: He gave testimony that --

21 THE COURT: You may inquire.

22 THE WITNESS: Yes, I believe that the PDOD
23 should be an integral part of assessing the impact of
24 leasing. I think that in something as important as
25 leasing on the outer continental shelf, where there

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2 are security issues, where there are environmental
3 issues, where there are substantial economic issues,
4 that there should be a document that describes the
5 decision-making process on which -- and justifies the
6 decision that's been reached.

7 And the PDOD, Programmatic PDOD, my under-
8 standing was that the Programmatic PDOD described that
9 decision-making process, that overall decision-making
10 process on which the decision for accelerated leasing
11 for the outer continental shelf was based, and I think
12 it's important in the case of accelerated leasing to
13 have such a document.

14 Q Was this understanding also obtained, you know,
15 your gut feeling, in your conversations with Mr. Like in which
16 you --

17 A My feeling as a non-lawyer and a non-political
18 scientist, but as a private citizen I feel that -- that this
19 type of process is very necessary. Also, as a person who has
20 worked in the Government for a number of years I think it's
21 extremely important that we do something to change the quality
22 and improve the quality of analysis that goes on in the
23 Government. I think in the case of disclosure of the decision-
24 making process this -- what this is going to do and what this
25 is doing now, if the courts uphold -- if the courts refuse to

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Q Did the Secretary prepare such a written decision as to why he decided to accelerate OSC leasing or to proceed with sale number 40, to your knowledge?

A I had presumed that the PDOD -- I think we are coming in circles again -- that the programmatic PDOD and the PDOD for site 40 was such a description of the justification of the decision-making process. Perhaps I'm wrong, perhaps it's something else. I'm not a lawyer, I'm just commenting on what the programmatic PDOD doesn't do.

It doesn't provide analytical basis for accelerating the outer continental shelf, and it really obscures the issues that -- other issues that seemed to surface in our discussion about why the Secretary would consider or wouldn't consider a certain option.

(Continued next page.)

Newlon-cross-Jensen

significant or important, the 20 year period to the turn of the century, and I was arguing that if we can say to the Arabs, you increase your price or your -- you embargo us, you lose for 20 years 2 to 3-million barrels a day of sales to the United States market. That that would be a substantial oil weapon, to use the term that was used yesterday. And that was the basis of my national security argument for exploring, but not using -- not producing from the outer continental shelf.

The fact that your -- the figures that you're citing seem to support that argument. They don't contradict it.

Q So the nature of your testimony is that the PDOD is inadequate because it fails to consider certain social and economic alternatives to sale number 40 or OCS accelerating --

A There are two points that I made. One point, that there were a series of analytical defects in the programmatic PDOD that I cited. And most of my testimony dealt with -- and Dr. Atkinson cited yesterday -- and the other part is that -- and this is how I became involved in this in the first place, that I felt there was a major option with significant advantages that I had written about, that I talked about, and that because it was imaginative, perhaps, it wasn't being addressed or considered seriously.

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2 A Yes. I have given consideration to natural
3 gas. My views on natural gas is that the problem in the
4 natural gas are largely due to the price regulations mess and
5 less a problem of leasing. And that if we had reasonable
6 price regulations, you would -- a lot of the shortage in the
7 natural gas would disappear.

8 (Continued next page.)
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2 year 2000.

3 A I wouldn't make that assumption. As I explained
4 before, especially over 20 or a 30 year period, the -- there
5 are enough close substitutes for that natural gas that -- if
6 the prices were allowed to rise to an appropriate level,
7 which I don't think would be -- would be economically --

8 Q Doctor, we are talking now about 1979, 1980,
9 1981.

10 A Yes.

11 Q Assuming those -- you cannot assume that the
12 price increase will not bring additional supplies?

13 A Wait a minute. As I informed -- as I told you
14 earlier, even if the -- even if the price increase didn't
15 bring additional supplies, it would bring a reduction in
16 demand that would bring demand in balance with supplies. And
17 what I am telling you is I don't think that would constitute
18 a crisis of the -- of the dimensions which Dennis Meadows
19 talked about. There are close -- relatively close
20 substitutes for natural gas. There are not --

21 Q Excuse me. I will let you go on with that. But
22 what does a home owner who is cooking with natural gas
23 substitute for it?

24 A There are ways of converting his utensils or
25

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2 offset the benefits of the subsidiary which natural gas users
3 have received for a number of years.

4 Q And the elimination of the subsidiary to which,
5 I take it, you object, is a political question, is it not?

6 A Sure.

7 Q Because of regulations by federal agencies of
8 the pricing of natural gas?

9 A No. The natural gas situation is a case of a
10 crisis that -- where the policies to produce -- that's where
11 the crisis are blamed. It's the price regulations that have
12 to be changed. And the crisis -- if you can use that term --
13 has reached such significant dimensions because we keep
14 putting off doing something. And to that extent, bringing in
15 large amounts of natural gas on the market from the outer
16 continental shelf would be an example of what I was talking
17 about, where the government doesn't behave like the private
18 businessman. A good private businessman would realize that
19 10, 15 years from now, 20 years from now, that natural gas
20 might be a lot more valuable than it is right now. He would
21 withhold supplies from the market, which the government through
22 its leasing policy, and to avoid a crisis, is going to force
23 on the market. To the extent that not leasing the outer
24 continental shelf will force us to have a rational pricing
25

2 THE COURT: Yes?

3 MR. LIKE: Your Honor, several foundation
4 questions before Mr. Donkin is turned over for cross-
5 examination.

6 THE COURT: All right.

7 Q In preparation for your testimony did you
8 review the Programmatic Decision Option Document?

9 A Yes, I did.

10 Q Did you also review the Mid-Atlantic
11 Programmatic Decision Option Document for Sale No. 40?

12 A Yes.

13 Q For the benefit of the Court, since the
14 Court has not had an opportunity to look at the pre-filed
15 testimony that you prepared, will you summarize the basic
16 findings that are contained in your testimony?

17 A Yes. In terms of conventional petroleum
18 resources, there are a number of alternatives to holding OCS
19 Sale 40 this month. In my view these alternatives are far
20 superior to leasing in a frontier area, inasmuch as the
21 potential oil and gas reserves associated with these
22 alternatives -- these sources would include non-producing
23 leases in the Gulf of Mexico from which gas reserves have
24 already been -- at which gas reserves have already been
25 drilled and discovered, non-producing gas reservoirs at

1 producing leases in the Gulf, producing reservoirs in the
2 Gulf of Mexico both oil and gas which currently are not
3 being produced at anywhere near their maximum productive
4 capacity, plus an extremely large inventory of leases not
5 categorized in the preceding categories, many of which have
6 not yet been subjected to exploratory drilling.

7
8 In fact, the inventory of leases in the Gulf
9 of Mexico today are greater than at any time in the past.

10 In addition to alternative conventional
11 sources in the Gulf of Mexico there are a large number of
12 onshore potential sources which the authors of both the
13 Programmatic PDOD and the Mid-Atlantic PDOD attached very
14 little weight to. However, available evidence in terms of
15 recent significant onshore discoveries, particularly with
16 respect to natural gas, would seem to indicate that the
17 future potential onshore is much greater than that projected
18 by the Interior Department.

19 In terms of specific criticisms of the
20 Programmatic PDOD, this morning Dr. Newlon also discussed,
21 for example, the potential benefits of conservation as an
22 alternative to accelerated leasing, and as I recall, your
23 Honor indicated that many of these alternatives, for
24 example legislation regarding automobile efficiency and
25 insulation in homes, is beyond the authority of the Secretary

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2 reliance on foreign energy sources.

3 A I wouldn't go quite that far. What I am
4 saying is that in terms of considering alternatives which
5 the programmatic PDOD asserts that it was doing, it in fact
6 ignored the dynamic considerations.

7 For example, will accelerated leasing of the
8 OCS in fact render us more vulnerable, let's say, in 1990 or
9 1995.

10 Now, I think that the testimony that I referred
11 to of Dr. Gaskin's before the ad hoc -- the House ad hoc
12 committee on the outer continental shelf tended to support
13 what I am saying, that this is an alternative that should be
14 considered and it wasn't.

15 Q Well -- but does the PDOD, either one of them,
16 purport to consider that?

17 A No, they do not.

18 Q The analysis is strictly in terms of what?

19 A Extremely static.

20 Q Of what it is now -- what the situation is now?
21 And so that when the PDOD concluded that OCS oil would
22 reduce total energy costs and reduce U.S. reliance on foreign
23 imports, it's speaking of the present -- or at least the
24 short term present?

25 A Yes. But it really doesn't make sense, because

Donkin-cross-Jensen

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2 what they are doing is comparing OCS production that is
3 coming on stream in 1980 in some instances, and 1985 in others,
4 and the peak production for sale 40 in 1989 with current
5 relationships. And that's not a fair comparison unless you
6 attempt to analyze what those relations will be 10 to 15,
7 20 years from now.

8 Q But isn't it your concern that there is not
9 a discussion of the fact that the oil reserves are going to
10 be depleted and then we might find ourselves very, very
11 dependent upon foreign sources of oil?

12 A I think that that is a consideration. A very
13 real consideration.

14 Q Isn't that --

15 A That Dr. Newlon --

16 MR. LIKE: Excuse me. Could the witness again
17 have an opportunity to state his answer fully without
18 being interrupted by counsel.

19 THE COURT: Yes. He's doing very well.

20 Go ahead.

21 Q Isn't that a self-evident proposition to any
22 reasonable decision-maker that if we use the oil now, it's
23 going to be gone and there won't be any more, and that's a
24 problem?

25 A I am not certain that -- that that is self-

1
jb/ss 2 BY MR. JENSEN:

2pm2 3 Q Now, I believe your affidavit or your testimony
4 says that you think that development of OCS oil now is not
5 an energy alternative that should have a very high priority?
6 In fact, it should have a very low priority, as far as the
7 national energy policy.

8 A Not the development of OCS in general. I think
9 if you read my testimony closely, there are probably 50
10 pages dealing with the Gulf of Mexico.

11 What I am saying essentially is that by holding
12 OCS sale number 40 this month, what we are in fact going to
13 do is exacerbate the problem. The problem is that the
14 development in the Gulf of Mexico isn't taking place at the
15 optimum level. And I can't really foresee during the next
16 three or four years that development being anywhere near
17 completed. You've got a lot of new leases out there which
18 are of -- which recently have been acquired, and discoveries
19 are being announced nearly daily or at least, you know,
20 every two or three weeks, real significant discoveries. And
21 to give you an example, there are three tracks maybe ten
22 miles off the tip of Louisiana which were acquired in
23 May of 1974 at a cost of \$214-million. They are in -- I
24 believe it's nearly a thousand feet of water. One drilling
25 platform is going to cost a hundred million dollars. That

1
2 drilling platform has been ordered. Plans are in. They are
3 currently planning to order perhaps a second platform. For
4 all indications it may be the Gulf of Mexico's largest oil
5 and gas field. There will be adjacent unlease acreage which
6 ultimately will be leased through additional developmental
7 drilling in all probability. And the lease figures that I've
8 got in my testimony -- I believe it's somewhere in the
9 neighborhood of 1,700 active leases in the Gulf which will
10 increase, placing more of a demand on drilling equipment,
11 platforms, rigs, manpower.

12 By holding lease sale 40 this month, I believe
13 the PDOD estimates that bonuses will be 400 to \$600-million.
14 And there are various estimates of drilling costs and new
15 transportation facilities, gas processing plants, and there's
16 going to be a rather large drain on the industry's ability to
17 raise capital for all those ventures alone, not to mention
18 what is now there in the Gulf of Mexico. And that can be
19 brought on stream at higher levels at much sooner rates.

20 THE COURT: Do you mean it's better to take off
21 that 4 to \$600-million and invest it in physical
22 exploration and production.

23 THE WITNESS: That's my opinion, your Honor.

24 Yes.

25 What we are talking about essentially is this,

1
2 your Honor. There may be oil and gas reserves in the
3 mid-Atlantic, and then again there may not be. Industry
4 paid \$1.5- billion for about 90 leases off the coast of
5 Mississippi, Alabama and Florida in December of 1973.
6 Nothing but dry holes out there. True, the federal
7 government got 1.5-million. But 1.5-billion of
8 production and developmental activity elsewhere,
9 perhaps in the central Gulf in the Louisiana and
10 Texas areas, was essentially foregone. And when you're
11 talking about frontier areas, you have to recognize
12 that there is a risk factor associated with those
13 reserve estimates.

14 Sure, there might be 2.8 TCR or 29 TCF relative
15 to those 154 tracks associated with sale 40. And then
16 again there may be zero. But we are pretty confident
17 that the Gulf of Mexico is a rather prolific producing
18 region.

19 THE COURT: What are we talking about in terms
20 of exploration? How much money is required to conduct
21 the exploration phases in 40?

22 THE WITNESS: It's in the PDOD. I think they
23 estimated a well costs -- \$3-million per well, and
24 \$1.2-million for a developmental well.

25 Do you want to include the lease bonuses?

1
2 THE COURT: No. Just assuming that we are
3 concerned with tying up capital otherwise required or
4 desirable, as you suggest, for production, without
5 loss of exploration so that you can make future
6 decisions.

7 THE WITNESS: Well, the PDOD estimates the cost
8 of drilling exploratory wells at between 180-million
9 and \$220-million, depending upon the quantity of
10 reserves found. And that \$3-million is -- it seems
11 high. But \$3-million per well is the figure that
12 that's based on. That will get you 30 exploratory
13 wells of the -- if the costs are the same in the Gulf
14 of Mexico.

15 THE COURT: I am sorry. I didn't follow that
16 answer. That's \$90-million for the 30 wells? Is that
17 enough to explore 40?

18 THE WITNESS: No. The estimate in sale 40 is
19 \$180-million. I'm assuming that the cost per well
20 are the same. But it seems to me that --

21 THE COURT: 30 wells would be needed.

22 THE WITNESS: The \$3-million per well is quite
23 high relative to exploratory drilling costs in the
24 Gulf. It may be the case. In fact, I haven't
25 examined this. That wildcat drilling in the Gulf

1
2 of Mexico costs a bit less than that.

3 THE COURT: In any event, they would be roughly
4 half a billion dollars frozen into government funds and
5 not presumably in oil exploration or production if
6 lease sale 40 goes through, and you're suggesting that
7 the industry ought to be using that half a billion
8 dollars in the Gulf of Mexico more productively?

9 THE WITNESS: I am suggesting that we would in
10 all probability develop far more oil and gas, and much
11 sooner, in the Gulf of Mexico for equivalent expenditures
12 where we simply were to continue to developing the
13 non-producing -- the producible shut in reserves and
14 leases, reservoirs and leases, and increase production
15 at producing reservoirs were appropriate up to levels
16 approximating the maximum desirable rate of production.

17 THE COURT: What would you do with 40? Explore
18 it or lease it?

19 THE WITNESS: Well, certainly during the next
20 three or four years, it seems to me that the decision
21 relative to 40 could be postponed.

22 THE COURT: Not even explored.

23 THE WITNESS: I don't see, your Honor, a
24 pressing need for sale 40. Perhaps in four or five
25

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1 years.

2
3 THE COURT: Forget about the sale. I am not
4 raising the question of who does the exploring. Putting
5 that aside, would you explore 40, assuming from what you
6 say --

7 THE WITNESS: Perhaps I am not understanding your
8 question. Are you asking --

9 THE COURT: Exploration could be by the
10 government.

11 THE WITNESS: Yes.

12 THE COURT: We are talking about the use of
13 capital. And we were assuming that half a billion
14 dollars of capital otherwise available for exploration
15 and production would be tied up were there a sale this
16 month? Is that so?

17 THE WITNESS: Yes. You raise an interesting
18 point. If we consider the separation of exploration
19 from production --

20 THE COURT: That's what I am getting at.

21 THE WITNESS: As an alternative.

22 THE COURT: If the government or anybody laid
23 out a hundred billion -- a hundred billion, could they
24 explore 40 sufficiently to find out what is there?
25

1
2 THE WITNESS: Well, they would have a heck of a
3 better idea as to what is there than they have now.
4 A hundred million is the figure.

5 THE COURT: That would give you about 45 wells.

6 THE WITNESS: Well, it will give you somewhere
7 in that neighborhood.

8 THE COURT: Is that sufficient? I don't know.

9 THE WITNESS: It seems to me that it would be
10 far superior to have the government drill maybe 15 to
11 30, 35 wells out there and get a pretty good idea
12 as to what in fact the potential is than to lease it
13 in this point of time.

14 THE COURT: Will 15 to 30 wells or 30 or 40
15 wells pretty much tell you whether there is oil or gas
16 out there?

17 THE WITNESS: Well, you're talking about 154
18 tracks. Okay. Now, obviously, I'm not going to
19 recommend that the government go out there and drill 30
20 holes without having any knowledge as to where they
21 should be drilling those holes. They could do what
22 industry does. They could purchase the seismograph,
23 the geological and geophysical data. They could
24 interpret it. They could also contract out to other
25

1
2 consultants who interpret such data. They could
3 contract out to the drillers. And based upon the
4 results of the initial drilling make a determination
5 as to where, for example, if at all, the ultimate
6 reserves lie relative to the range of estimates
7 contained in this PDOD.

8 It seems to me that that is a very viable
9 alternative.

10 THE COURT: Well, as an economist and somebody
11 reading these impact statements and other statements
12 that the Secretary had, is there sufficient analysis
13 of this problem of where capital is being used and where
14 it would best be used? I am concerned particularly
15 in the question about the half billion dollars. But I
16 suppose there are many other costs.

17 THE WITNESS: That's right. This half billion
18 dollars relates certainly to the bonuses.

19 THE COURT: That is a sizable amount of cash
20 that is frozen.

21 THE WITNESS: Yes. That is correct.

22 THE COURT: Would that otherwise be available
23 for exploration and development in the Gulf?

24 THE WITNESS: Well, assuming --

25 THE COURT: Or is this new capital that is

1
2 generated? I don't know enough about this.

3 THE WITNESS: It all depends as to whether or
4 not you're talking about a major oil company or a
5 large independent or a small independent. But then
6 the way the leases --

7 THE COURT: Are these problems discussed --

8 THE WITNESS: I believe that the --

9 THE COURT: -- in the statement?

10 THE WITNESS: I believe the PDOD for sale 40
11 had a much lengthier discussion of the capital
12 requirement than the programmatic.

13 THE COURT: And does it discuss the most
14 useful way of using that half billion dollars at this
15 point in order to rapidly increase the --

16 THE WITNESS: No, your Honor. It really didn't
17 consider the alternative of an additional development
18 in the Gulf versus frontier areas. And I know that
19 the programmatic didn't consider the possibility of
20 enhancing the Gulf of Mexico production at all.
21 They listed those four alternatives. And I was really
22 surprised when I didn't see that listed as one.

23 THE COURT: Is there more capital required for
24 secondary and tertiary development.

25 THE WITNESS: It is a very expensive proposition.

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2 THE COURT: ASSuming you have a secretary or
3 a -- and I am not trying to denigrate him. I have no
4 evidence as to his background before me. I suppose I
5 could take judicial notice what is said in who's who
6 about him. I don't know whether he's an engineer or
7 an economist, or what his --

8 MR. HYMAN: Businessman. He's in the wax
9 business.

10 THE COURT: What?

11 MR. HYMAN: Wax business.

12 THE COURT: Wax business. I don't know. Let's
13 assume he's an average intelligent well-informed man.
14 Could he -- who doesn't know much about the oil
15 business.

16 And wax, I suppose, comes from oil. But he
17 doesn't know much about the oil business generally.

18 Could he make an intelligent decision based
19 -- that's acceptable to you as an economist, based
20 upon these documents that he had.

21 THE WITNESS: I don't believe so, your Honor.
22 It's more or less what I was attempting to address in
23 my prepared statement.

24 THE COURT: Could a reasonable set of
25 alternatives understandable by a lay person have been

1
2 put togetherwith the data now available that would
3 satisfy you as an economist who was to present it to
4 a decision-maker?

5 THE WITNESS: I am fairly confident that it
6 could have been. Yes.

7 THE COURT: All right.

8 Q I would like to return to this question of
9 capital briefly for a moment.

10 Now, in taking about the capital needs for
11 OCS sale number 40, you implied that there would necessarily
12 be a diversion of capital from Gulf activities in order to
13 meet the capital requirements here; is that correct?

14 A Yes.

15 Q But doesn't that take a very fixed view of what
16 capital is? I mean, couldn't we also just as easily assume
17 that the capital requirements will be met by capital coming
18 in from other sections of the economy, increased bank loans,
19 or however the companies raise capital to --

20 A At a cost.

21 Q At a cost. But the capital is there, is it
22 not?

23 A Well, if we assume that capital markets are
24 perfect, capital will typically be forthcoming provided that
25 the borrowers are willing to pay the price. However, you

1
2 Q Isn't there -- isn't this very subject of
3 the capital structure of the oil industry and their ability
4 to obtain financing or new sources of capital discussed
5 at some detail in appendix C in the sale 40 PDOD?

6 A There is a rather length discussion of the
7 ability of the industry to acquire the necessary capital
8 to drill the leases relative t sale 40.

9 Q And don't they say in that disc...on that
10 there might be a problem, that the total energy capital
11 demands might outstrip the available capital supplies in the
12 economy?

13 A Yes, but they really don't address the impact
14 that that's going to have on the capital necessary to
15 develop the Gulf of Mexico, the on-shore fields, to complete
16 the last Canadian pipeline, and things of this nature.

17 THE COURT: No, that's the point. I think
18 the cross-examination has developed that nicely.
19 It hadn't occurred to me earlier.

20 MR. JENSEN: Well, I have not had a chance
21 to review the entire document, but there is an
22 extensive appendix to 40 PDOD discussing this point.

23 THE COURT: Well, of course, you will have
24 a chance to brief it. I suppose everybody will want
25 to brief this to incorporate an analysis of the

1
2 it would cost \$5 million to increase production up to MER.

3 But at any rate, one of the qualifications that
4 they have here is "Any increase in MPR per well in the
5 future due to tapping of new major reserves cannot be fore-
6 seen."

7 In other words, additional drilling activities
8 often proves up new reserves. I would not discount that
9 possibility, either.

10 Q Surely. Now, how would you compare the
11 possibility of discovery of new reserves by the additional
12 drilling in the Gulf of Mexico which you suggest compared
13 to the possibility of discovering new reserves in unexplored
14 frontier areas such as the Gulf of Alaska or the Atlantic
15 regions?

16 A Are you asking me --

17 Q Isn't it true --

18 A (Continuing) -- to quantify?

19 Q Yes, if you can.

20 A Well, the success ratio in existing fields is
21 oftentimes -- in the Gulf of Mexico it's between 60 and 75
22 per cent, depending where you are. Sometimes as high as
23 80 or 90 per cent. So in terms of risk there is probably
24 a great possibility of finding something with every
25 development well in a known field that you drill.

5 1
2 By the same token, you are probably not as
3 likely to discover unless you go to deep depths, and that
4 wouldn't be the case here, you wouldn't be as likely to find
5 major new reserves because your other wells would have found
6 them already. So you can find new reserves that are not
7 going to be giant fields through this type of developmental
8 drilling.

9 Q Right. Were you testifying that the best
10 opportunity for this nation's industry to find substantial
11 significant big reserves of oil and gas is to continue its
12 operations in the Gulf of Mexico, as opposed to frontiers
13 such as the Atlantic and Gulf of Alaska?

14 A Well, I am told that the Gulf of Alaska is
15 likely to have substantial reserves. The range of reserves
16 estimates relative to OCS Sale 40, for example, is not
17 nearly as large as it has been for many of the recent sales
18 in the Gulf of Mexico.

19 So with respect to Sale 40, if we are lucky
20 and if we are at the upper end of the range I am fairly
21 confident that that would ultimately some time down the
22 road generate a larger incremental reserve than drilling
23 developmental wells in currently -- into currently
24 producing reservoirs.

25 But I'm not saying and I would not agree that

6

1 additional exploratory and developmental drilling in the
2 Gulf of Mexico will not prove up larger reserves than we can
3 reasonably expect from OCS Sale 40. In fact, I'd be fairly
4 surprised that -- for example, there are nine hundred and
5 some leases not classified producing, not classified
6 producible shut-in, many of which haven't been drilled yet,
7 and they would I am fairly confident develop a lot more
8 reserves than those that are being projected for sale 40.
9

10 Q Well, do you have any information that industry
11 has used the Gulf of Mexico as a source of very significant
12 finds of oil and gas, additional reserves, new reserves, in
13 the same way they have used the possibilities of such in the
14 Atlantic and Gulf of Alaska regions? Do you have any
15 information about that?

16 A Yes, I'm aware, for example, of some of the
17 predictions for deeper water -- water areas in the Gulf of
18 Mexico. They are quite optimistic in terms of major new
19 fields. That Cognac prospect I was referring to earlier may
20 be the Gulf's largest oil and gas field. It's a highly
21 prolific producing area.

22 Q Let me ask you to look at something with me.
23 This is Defendant's G, Exhibit G, already in evidence. And
24 I'd ask you to look at page 2 under the -- well, I don't
25

Donkin-cross/Jensen

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know if you are familiar with this, Mr. Donkin, you may be.

It's a study prepared by the Library of Congress of the

effect of oil and offshore development on the coastal zone.

On page 2 of the heading -- well, first of all on page 1 we

are talking about findings, environmental issues, and then on

the second page under heading "Outer Continental Shelf

Resources," and in paragraph 9 it is stated: "The U.S.

Continental Shelf can be the largest domestic source of oil

and gas between now and the 1990's. The chance of finding

large new fields on U.S. lands are slim except in Alaska."

Next paragraph: "Even if the high promise of

offshore oil and gas are realized, the nation will still

require major amounts of oil and gas from foreign sources."

First of all, do you disagree with paragraph 9?

A Well, I am certainly familiar with many

projections that for example indicate that 50 per cent of

our future natural gas reserves will be discovered in --

either in the outer continental shelf or in deeper drilling

efforts on shore, for example in the Texas Panhandle. I

have no basis to challenge paragraph 9.

Q What about paragraph 10, sir?

A Let me just add one --

Q Sure, take your time.

A (Continuing) -- comment, regarding paragraph 9.

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It states, "The U.S. Continental Shelf," and that certainly, as I understand it, would include the Gulf of Mexico. There are a number of unexplored prospects in the Gulf of Mexico.

Q And I was asking you about paragraph 10.

A I really don't know what the time frame that they have in mind there is. I don't know what they mean by major amounts of oil and gas from foreign sources.

Certainly, with respect to natural gas we are not at this point in time importing major amounts.

With respect to oil it's difficult to say, and as I indicated earlier, national energy policy that will be developing in the next two or three years will have a large impact on the extent to which that statement, paragraph 10, is accurate.

Q Mr. Donkin, in your opinion is there a national shortage of natural gas at this time?

A Well, certainly the quantity demanded at these prices is significantly greater than the quantity supplied, and that's how most of the economists define a shortage. So I'll say yes.

(continued next page)

1 Q Well, do you consider it of crisis proportions?

2 A Crisis proportions. How do we define a crisis?

3 Q Well, define it as the Federal Power Commission
4 has defined it.

5 A I'm not certain how they defined it. Let me
6 just discuss this with you for a moment, please.

7 Approximately 20 to 24 per cent of all natural
8 gas consumed in this country is for residential purposes.
9 I am not quite certain of the percentage of really high
10 priority commercial and industrial uses of gas, I'm not
11 quite certain what that percentage is, but it's -- it's not
12 that high.

13 One of the reasons that -- that we have a
14 natural gas shortage, for example, is that it's cheap. In
15 Florida and Mississippi and Alabama and Louisiana and Texas
16 they consume probably as much if not more natural gas as
17 boiler fuel in generating electricity as the rest of the
18 nation consumes in terms of residential uses. So --

19 Q Can you come back to my question?

20 A Yes, that's what I'm trying to do, really.
21 It's a fairly complex question. You asked me whether or not
22 there is a natural gas crisis, essentially, and I agree that
23 there are shortages at existing prices, I agree the
24 curtailments are increasing. That doesn't necessarily mean
25

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2 that you have got a crisis because you've got curtailments,
3 because you've got a large number of substitute fuels.

4 So I really wouldn't -- I don't think I would
5 agree that it's of crisis proportions, no.

6 And in fact relative to the future, inasmuch as
7 the FPC just recently increased the price of new gas, I would
8 anticipate a lot of that gas that's being either withheld on-
9 shore or offshore or being sold under short-term contracts in
10 intrastate markets would be freed up for the interstate
11 pipelines.

12 Q So even though you don't consider it to be a
13 crisis you do consider there is a shortage, and my next
14 question is whether in your opinion that shortage can be
15 relieved by your suggestions for increasing production in
16 the offshore Gulf of Mexico OCS area?

17 A No, the shortage --

18 Q Excuse me, I want to be sure you --

19 A (Continuing) -- can't be relieved in terms of --

20 Q I want to be sure you understand my question.

21 A Yes?

22 Q I'm talking about -- I want to make it clear --
23 the increased producing of the wells and the drilling of
24 additional wells.

25 A There would be significant increases in

1
2 production in the near term if producible shut-in leases were
3 brought onstream, if new well completions took place.

4 Let me just see if I could give you an estimate
5 here. Let's say that we are somewhat near the midpoint of that
6 range for the producible shut-in leases and let's assume
7 six trillion cubic feet. And there were another 1.2 trillion
8 cubic feet that could be, that would be commercial at prices
9 between 55 cents and a dollar, but that was just a sample, so
10 let's add another three or four trillion.

11 Q Are you using figures that you have used in
12 your testimony?

13 A Yes.

14 Q I couldn't remember. Go ahead.

15 A That's at least ten trillion cubic feet.

16 Q Are these reserves, reserve figures? These are
17 reserve figures, of course, yes.

18 A Yes. Now, in the Gulf of Mexico you can probably
19 produce at least ten per cent of the recoverable reserves the
20 first year. That's what Exxon says. They made a submission
21 to the FPC for the natural gas survey. So if you have got
22 -- if you have ten trillion cubic feet you'd be able to
23 produce 275,000 a day out of that.

24 And what about the MER issue? You are
25 interested in that, too, I presume?

1
2 service and are not planning to attach any new customers.

3 That's a general statement. They may be--

4 Q Are you familiar--

5 A There may be exceptions.

6 Q Are you familiar with the information which
7 the Federal Power Commission issued on June 8, 1976, in
8 connection with its summary of FTC Form 16 data?

9 A No, I am not familiar with that one, but
10 isn't that the annual report on pipeline curtailment?

11 Q Yes, and I would show you Defendants' Exhibit
12 O, which is a subsequent order issued on July 20th, ordering
13 an investigation into the impact of curtailments during the
14 coming winter, and ask that you look at Appendix A.

15 Do you see on Appendix A any pipeline which
16 you know, sir, of the New England area?

17 A Texas Eastern Transmission Corporation,
18 I believe goes up.

19 Q Any others?

20 A I'm not certain whether the terminal point
21 of the Transco System is-- I assume that it serves at least
22 Connecticut. Whether it goes further north--

23 Q Transcontinental serves the New Jersey and
24 New York area?

25 A Yes, most definitely.

Donkin-cross/O'Hara

1
2 A Well, if--

3 Q Was that the problem?

4 A If the pipeline was abandoned, there would be
5 less capacity to serve them.

6 Q Were their contracts then being curtailed?

7 A Yes. Curtailments are very high--

8 Q A moment ago you were kind enough to do a
9 calculation and do an estimate of the amount of gas which
10 you thought was available and which might be utilized
11 presently to help offset curtailment. I did not get the
12 number which you calculated, and I wonder if you recall
13 approximately -- I just didn't --

14 A Well, let's do it very simply and then
15 I won't make a mistake on my calculator.

16 I assume 6 trillion cubic feet of reserves
17 relative to the producible shut-in leases. And I'm adopting
18 that as an extremely conservative estimate.

19 Q Well, perhaps I can shortcut this. Please
20 feel free to add whatever you like, but I think rather
21 than going on until you have heard the full question,
22 what would the daily quantity of gas that you believe is
23 readily available -- what would it amount to?

24 A From those two sources, the producible
25 shut-in leases and the non-producing dedicated reservoirs,

it will be roughly one trillion cubic feet a year during the first year.

Q A year?

A Yes, during the first year. O.K. That is based upon Exxon's estimate of the first year deliverability.

Q All right. Is that your answer or are you-- Did you want to add anything?

A I want to give you a daily deliverability.

Q O.K.

A That makes a big difference. I thought it should be more. 2.7. Is that possible?

Q 2.7 what, please?

A cubic feet.

THE COURT: Three hundred?

THE WITNESS: I beg your pardon?

THE COURT: 350 days in a year.

THE WITNESS: My calculator says 2.7 million cubic feet per day.

Q Per day?

A Yes.

Q Could you translate it to m.m.c.f.

A 2,739.

Q 2,739.

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Donkin-redirect/Like

1836

REDIRECT EXAMINATION

BY MR. LIKE:

Q Mr. Donkin, have you during the recess had an opportunity at my request to review Defendants' Exhibit O in evidence, in particular the table as to which you were cross-examined by Mr. O'Hara concerning the Transco curtailment?

A Yes, I have.

Q And would you please inform the Court what you found with respect to the accuracy of that table?

A There is an obvious typographical error in the column headings. The columns are headed, "MMCF." They should be headed m.c.f.

If that error is taken into account, then my response to Mr. O'Hara's question is that the amount of daily deliverability from the offshore Louisiana producible shut-in leases and non-producing gas reservoirs which are dedicated to interstate pipelines would account for 500 -- approximately 5040 percent of Transcontinental Gas Pipeline Corporations projected deficiency during the winter heating season, November 1976 through March 1977.

Q Instead of two percent?

A That is correct.

Q Tell us how you came to the conclusion that

1
2 should read m.c.f.

3 My answer would be the same for many of
4 these other pipelines here as well.

5 In other words, I'm familiar enough with the
6 capacity of many interstate pipelines to know approximately
7 what their projected level of curtailment should actually
8 be.

9 Q Did you find any reference in the text of
10 that exhibit which is explanatory of the figure which
11 appears in the column, the tables which you have concluded
12 is in error?

13 A Well, at page 2 the following sentence
14 appears:

15 "The data further show that 19 of the
16 pipelines submitting projected curtailment of
17 approximately 20 percent or greater during the
18 forthcoming heating season," and that percentage
19 figure seems to be in line with Transco's.

20 Q Does the text indicate any evidence supporting
21 an m.m.c.f. caption in the table?

22 A No, it does not.

23 THE COURT: Can we dispose of this whole
24 litigation on a typographical error?

25 Q Have you made a comparison of the expected gas

Donkin-redirect/Like

1839

1
2 yield from OCS Lease Sale 40 and your calculations with
3 respect to what could be yielded if the producible gas
4 at producible shut-in wells and dedicated reservoirs were
5 brought up to optimal utilization?

6 A Yes, I have.

7 Q Will you please tell the Court what that
8 calculation is?

9 A If the gas reserves estimated for Sale 40
10 are at the low end of the range, then the offshore producible
11 shut-in leases and non-producing reservoirs would account
12 for approximately 317,000 -- or 317 percent of the peak
13 daily capacity to be attained in 1989 for Sale 40.

14 Similarly the figure is 192.8 percent of the
15 estimated -- let me check that again. I think I used a
16 wrong number there.

17 Yes, at the high end of the range for Sale
18 40 the Gulf of Mexico leases would account for 87 percent
19 of that figure.

20 In other words, they could produce slightly
21 less than what is now being estimated for Sale 40 at the
22 upper level of the reserves estimate range.

23 MR. LIKE: Your Honor, my concluding question of
24 this witness is in the nature of an offer of proof on the
25 anti-competitive issue, which you ruled would not be

entertained.

Q Mr. Donkin, I show you my affidavit dated July 22, 1976, and in particular page 23 -- pages 23 through 25, and ask you whether if you were questioned with regard to the subject matter contained on these pages you would testify in support of the statements contained in the affidavit.

A Yes, I would.

Q And would you have been prepared to introduce in addition to your testimony the documentary evidence in support of the statements contained in my affidavit?

A Yes, I would have.

Q Thank you, Mr. Donkin.

MR. LIKE: I'd like to offer in evidence, your Honor, the Federal Trade Commission staff letter which came about as a result of your Honor's order directing that the PDOD be sent to the Federal Trade Commission and to the Justice Department.

THE COURT: All right.

Do I understand part of your testimony on cross to indicate that if the low priority intra-state use were devoted to the high priority industrial-- or higher priority industrial and home use, that

Donkin-redirect/Like

1841

1
2 much of the shortfall would be overcome?

3 THE WITNESS: Actually, what I'm saying is
4 this, your Honor: I'm not really aware of any
5 residential curtailments being projected for this
6 year. Now, there may be, but I -- I'm just not
7 aware of curtailments reaching that far.

8 But then you've got small commercial and
9 high priority industrial uses, and yes, if natural
10 gas service to generate electricity were either
11 ceased within the near future or phased out, that
12 would free up rather large volumes of gas to serve
13 the higher priority uses and it would probably
14 eliminate all curtailments.

15 THE COURT: If they raised the price, that
16 would have the effect of phasing it out, wouldn't it?

17 THE WITNESS: In a very real sense, yes.
18 The reason that they--

19 THE COURT: However, would you have to raise
20 the price so that it wouldn't be desirable to use
21 this stuff locally to generate electricity?

22 THE WITNESS: Up to the alternative fuel cost.

23 THE COURT: Which would be about what?

24 THE WITNESS: And in the Southwest it's
25 about anywhere from \$1.60 to \$2.20 per million btu.

1
2 It depends on whether or not they are burning No. 2
3 or No. 6.

4 THE COURT: Assuming it's \$2, what does that
5 mean in terms of gas?

6 THE WITNESS: Approximately \$2 per m.c.f.

7 THE COURT: And what are they charging now
8 on interstate lines under the new raise in prices?

9 THE WITNESS: Exclusive of taxes, if upheld
10 by the courts, I think the new nationwide rate is
11 approximately \$1.49 per--

12 THE COURT: So it still wouldn't be high
13 enough to induce these local power companies not to
14 use it?

15 THE WITNESS: Well, the local power companies
16 in many instances, your Honor, are purchasing that
17 natural gas under long-term contracts--

18 THE COURT: I see.

19 THE WITNESS: --which are significantly below
20 that level.

21 THE COURT: I see.

22 THE WITNESS: They wouldn't be burning gas in
23 Texas and Louisiana if they were paying as much for
24 their gas as they would have to pay for oil. That's
25 why you have got the shortage, because gas is so cheap.

Donkin-redirect/Like

1843

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2 THE COURT: Congress has refused to give the
3 Federal Power Commission authority to control intra-
4 state use, hasn't it?

5 THE WITNESS: Yes. In fact, they have been
6 waivering between extending jurisdiction to the
7 intra-state market or de-regulating all new sales.
8 It's difficult to say which way they are going to
9 go. I think it's fairly clear that--

10 THE COURT: Either way would have the same
11 effect, wouldn't it?

12 THE WITNESS: Yes. Some people might argue
13 that deregulation is preferable because it will
14 still provide for a sufficient incentive to producers
15 to go out and explore and develop.

16 Others do point out that if you expand juris-
17 diction to the intrastate market, (1) you will get
18 more gas into interstate commerce, and (2) you will
19 get a lot of speculative expectations with regard
20 to price, which lead to withholding, so it's a very
21 debatable issue.

22 MR. HYMAN: Your Honor, one question?

23 RECROSS EXAMINATION

24 BY MR. HYMAN:

25 Q If the local Texas companies convert from gas

jb/ss 1

2am2 2 1

MR. BIALIK: Your Honor, we offer in evidence, in lieu of a statement of what the Secretary actually relied on in deciding the whole sale 40, a copy of a letter from Lawrence Hosey , the attorney for the Division of Energy and Resources of the Department of Interior to Mr. Hyman. This is a letter that Mr. Hyman produced and it lists documents that were allegedly available for the Secretary when he made the decision.

MR. HYMAN: I object again, your Honor. I am not going to -- it covers materials that --

THE COURT: May I see it.

MR. HYMAN: -- that we are -- we are now going far afield. They start from the top and they are going to the next level and the next level right down to the guy who delivers the mail concerning this statement.

THE COURT: Well --

MR. HYMAN: Why is it relevant.

THE COURT: It is my understanding that the - with the impact statement, that there were a package of other documents that went to the Secretary to assist him in his decision making.

MR. BIALIK: Your Honor, this document relates to Sale 40. The other document relates to the

Oppenheimer-direct

1949

of the curriculum vitae and a list of publications.

I have other copies if anybody needs them.

Q Doctor Oppenheimer, have you been involved in research in the area of the effects on the marine environment of hydrocarbon pollution in coastal and ocean waters on the outer continental shelf?

A Yes, my first research on hydrocarbons or hydrocarbon ecology was in 1951, as a part of API Project 51, which looked at source beds of petroleum in the Gulf of Mexico.

Q Speak a little louder, Doctor, so that --

A Yes. Which looked at source beds of petroleum in the -- in the Gulf of Mexico, the Texas area and the Louisiana delta.

After that I worked as an engineer with a petroleum company, the Central Land Oil & Gas, which has been changed, is a subsidiary of Standard Oil of Indiana. My primary role there was to work on the origin of hydrocarbons through microbial processes.

Since that time I have worked in the field of general petroleum ecology, advising students on microbial processes in the evolution and diagenesis of oil.

I have worked about five years on the use of microorganisms to clean up oil pollution for the EPA.

1
2 not, probably because I'm so familiar with the literature,
3 but there was not a good statement on the distribution of
4 ambients or indigenous hydrocarbons in the area either in the
5 water or the sediment.

6 There was a good description of the effects of
7 these -- that they might occur, but for some reason this was
8 not included in it.

9 Q Were there other errors or omissions that
10 you might have noticed as you went through the statement?

11 A Not that weren't represented by the -- by the
12 total package. No, if you looked at any specific item or
13 any specific paragraph and take it out of context it would
14 be very easy to be misread, but if you read the document as
15 a whole you will find that -- that within the document there
16 are the facts and the figures which will allow one to make
17 decisions.

18 Like for example there was mentioned many
19 times about the circulation and about drilling cuttings,
20 about the produced water, et cetera. But also in that same
21 -- in the same document it includes current measurements for
22 the adjacent area.

23 Now, one can easily sit down -- and it took me
24 almost three minutes to take the two values and put them
25 together, and we came out with a figure of a minimum of two

1
2 miles of water passing each platform or each activity per day,
3 and a maximum of ten miles of water.

4 Now, this is me is significant to evaluate the
5 turbidity effects, the heavy metal distribution, the thirty
6 to forty parts per million of oil in the produced oil, and
7 the anoxic produced water, because when you realize that if
8 you take the value of the area and its volume and the volume
9 of oil that is produced in one day at a maximum value, which
10 I think was about 320 to 340 barrels a day according to this
11 figure, that this represents one-millionth -- the oil
12 represents one-millionth of just the volume in the area of
13 the lease.

14 So when you add all of these facts together
15 it indicates that the impact of -- of the byproducts of
16 exploration and production are going to be spread out pretty
17 thin, because it's a very big ocean, and I only relate it
18 to those areas directly in front of the platforms.

19 Now, this wasn't explicitly mentioned in the
20 report, but it's there and can be evaluated.

21
22 (continued next page)
23
24
25

FL:jk

Oppenheimer-direct

1965

Q Incidentally, Doctor --

THE COURT: Excuse me. I have a question.

Doctor, you spoke about the ambient hydrocarbons. Now, by ambient hydrocarbons, do you mean those hydrocarbons naturally in the water because of effusions from the sea bottom, or does it also include manmade hydrocarbons such as -- I shouldn't say made but dropped, such as those pumped from tankers and the like?

THE WITNESS: By ambient hydrocarbons, I meant those hydrocarbons that have been measured in the last three or four years as the -- you know, in the waters of the Atlantic, the Gulf of Mexico and the North Sea, and so on.

The values there are between about 20 and 60 parts per billion, which we believe is about the lower level of microbial activity.

You see, hydrocarbons are produced. About 8 times 10 to the 6th barrels are produced each year by photosynthesis alone in the total world ocean, and about 15 per cent of the world's productivity is along the coast.

At the same time, if you use the Academy of Science's figures, a little over a million -- I think

1
2 general area of the bight. What's the ambient
3 hydrocarbon level of that?

4 THE WITNESS: I don't know. I have not seen
5 any --

6 THE COURT: Shouldn't it have been in this
7 document, and would it have been affected or might it
8 be affected by the additions of hydrocarbons that
9 might come from the oil lease area and from pipelines
10 or tankers carrying oil?

11 THE WITNESS: I have stated that this is one
12 of the weak points of the -- the weak point that I
13 found in the impact statement is that there is no
14 evidence, no data on ambient hydrocarbons.

15 THE COURT: Well, could that be a significant
16 factor in view of the fact that we have at least in
17 this area and probably in some of these other areas
18 the possibility of higher than this 20 to 60 per
19 billion you have mentioned?

20 THE WITNESS: Yes. It's quite obvious that
21 -- that those organisms that are living in there are
22 subjected to a higher hydrocarbon composition -- you
23 know, composition in the water, and have either
24 adapted to it or have -- have decreased in numbers.

25 Now again, we can use a comparison here,

Oppenheimer-direct

1974

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2

THE WITNESS: Well, in the --

3

THE COURT: -- is important or it isn't

4

important?

5

THE WITNESS: Integrating that with the production

6

of oil, I would say that if the animals are already --

7

are already impacted with hydrocarbons then their

8

opportunity for withstanding any -- any additional

9

hydrocarbons from the coast is probably pretty good,

10

because again you have a finite of material that will

11

go in the water. Now, this excludes the physical

12

aspect. I'm only talking about the water face. I'm

13

not talking about a big blob of oil that may come in

14

and bury all of the -- all of the shoreline and thus

15

make it anoxic, because oil in a sense is physically

16

toxic. If you were dumped in a barrel of oil head

17

first I don't think you would last very long, and

18

neither will any other organism if he is physically

19

impacted with the hydrocarbons, so that he can no

20

longer carry on life functions.

21

THE COURT: Go ahead.

22

Q Doctor, incidentally, are there studies that

23

have been made as to the hydrocarbon content of waters nearby

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platforms producing in the Gulf of Mexico?

25

A Yes.

Oppenheimer-direct

1977

1
2 purpose of conducting inter-disciplinary research within
3 universities.

4 Now we are becoming more and more aware that
5 we cannot approach in an environmental evaluation without a
6 complete inter-disciplinary coverage. This group, the Gulf
7 Universities Research Corporation (sic) with a committee
8 which consisted of myself and three other scientists,
9 developed the offshore oil ecology program, solicited from
10 the universities participants, selected 24 scientists
11 representing individuals parts of the environment, physics,
12 chemistry, geology, and so on, managed the project and --
13 and wrote up a simple conclusion such as I can give you here
14 (indicating), and also have an on-going project to put the
15 information in a computer for more complete evaluation, which
16 is on-going at the present.

17 The -- I also took part in the project in that
18 aspect of determining hydrocarbon composition of the water
19 and in living organisms, and also microbial degradation
20 rates.

21 The results of this are indicated in the first
22 of these volumes, which I'd be pleased to give the Court. It
23 indicated that about 70 percent had either no adverse or
24 beneficial effects of all the projects that were completed,
25 and as I said, they included all of the things like trace

1
2 elements and so on. And about 25 percent required further
3 interpretation because they were just too complex within the
4 time scale and the funds that were available to do a complete
5 evaluation.

6 In this page is a list of all of the scientists
7 and the fields which they represented.

8 Now, this was a study which reported by
9 the oil company, \$1.5-million, of which the money was given
10 to GURC and given to the universities. They did not oversee
11 our research, they did not interfere with our selection of
12 scientists, they did not interfere with our written
13 description of the results. It was I guess probably one of the
14 best research projects I've ever been on because it was money
15 that would allow us as scientists to do as we thought best,
16 without any outside impact.

17 Q There was an understanding that the work and
18 the conclusions would be made public, is that right?

19 A The work and the conclusions have been and are
20 to be made public.

21 Q Doctor, was a conclusion reached with respect to
22 whether low level chronic exposure to crude oil would have a
23 more than negligible effect on marine life, and if so, what
24 was the conclusion?

25 A The conclusions based on fisheries evaluation

1985

Oppenheimer-direct

3 1

2 Q (Continuing) -- in the sale 40 impact statement?

3 A Yes. For example, Moore went to great lengths
4 in saying there was no methodology in the impact statement.
5 I felt that there was a considerable methodology. I thought
6 it was straightforward, that he evaluated each part as a
7 separate entity.

8 The data were there for allowing you to -- to
9 compare units.

10 Now, if they had gone on for all of the
11 comparisons, as I said, then they would have just added
12 more and more and more, and it would be better because of
13 the tremendous -- tremendous scope of interrelationships to
14 present the data and let the evaluation follow with respect
15 to each individual's interest.

16 Q Doctor, do you have any reason to believe
17 that so far as your area of scientific interests are
18 concerned, the environmental risk that would be involved in
19 the leasing of the Mid-Atlantic region would be greater
20 than the risks that were involved in the leasing of the
21 frontier area offshore in Mississippi, Louisiana and
22 Florida?

23 A Well, there are differences. The physical
24 environment is different, the water is deeper, the wave
25 action is a little bit more significant than perhaps the

5 1

Oppenheimer-cross

2

Q Okay. Well, were you invited to come to
3 testify?

4

A Yes.

5

Q You yourself?

6

A Yes.

7

Q Bywhom?

8

A By the attorneys of Liskow & Lewis.

9

Q And do you know on whose behalf -- I don't mean
10 here today. I am sorry. I am talking back there on that
11 Louisiana sale?

12

A Yes.

13

Q Your answer is you were invited by this Liskow
14 & Lewis firm for that?

15

A Right. I don't know the exact organization for
16 which they were working for at that time. I am sorry. I
17 have been --

18

Q Well, did you have any idea of what sort of
19 organization they were working for? Were they working for the
20 oil industries one way or another?

21

A I assumed that they were working for the
22 offshore oil companies, yes.

23

Q All right.

24

A But I don't know for a fact. Perhaps --

25

Q Was it in that connection that you reviewed

7

1

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A Yes.

3

Q All right. Now, you mentioned testifying on

4

another sale; is that correct?

5

A Yes. I testified at the -- not the sale, but

6

at the impact statement -- or I guess it was called that --

7

for the Malfa area which was held in Tallahassee for the

8

same group of people.

9

Q Same group of people?

10

A Under the same conditions.

11

Q And that's back in '73?

12

A I don't know the exact date. About that time.

13

Q Now, in direct testimony you spoke -- did you

14

not refer to nature's valued judgment?

15

A Yes.

16

Q In passing?

17

A Yes.

18

Q Now, when you testified back there on the

19

Malfa sale, didn't you say that you were willing to accept

20

short term massive spill damage if the recourse would be to

21

curtail the mining of oil, as you put it, or the mining of

22

a needed energy material? Was that your valued judgment?

23

A Yes.

24

Q Let's talk a little bit about the offshore

25

ecology investigation, the GURC study that you mentioned on

scientific aspect because of various reasons, among which are in there.

Q Well, Dr. Oppenheimer, the reasons that we went over this before in which you refreshed your recollection about -- by looking at it, that it didn't refer to it as whether it was scientifically inaccurate because they refer to insufficiencies of data and so on; is that not correct?

A That's what we consider the reason. An insufficient data may be because the guy took it wrong or there wasn't enough data. It's a very loose -- you might say loose character. One does not -- in the scientific field, one does not overtly go out and condemn a piece of research because it does not represent his best work. You may have a student who was lax and, therefore, we were very careful in our wording so we would not jeopardize the person's reputation.

Q All right.

A We do have a code of ethics just like you do.

Q Let's take a look at some of the inconclusive materials. You, of course, are familiar with the work of Mr. Perry, Alison Perry. I referred to this, I think, a moment ago.

A Yes. Not thoroughly. It's been quite some

Oppenheimer-cross/Zedrosser

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time that I have reviewed his paper and I have reviewed many things since then.

Q To be sure. But you are one of the four people whose name is on this study.

A All that I am accounted for in the report -- because I do not have the report in front of me and I do not memorize all of the details of it and --

Q Well, let me see what you do remember, sir. Is it not a fact that Mr. Perry found that the production platform sites in the bay and offshore were both lower in biomass values than the two other sites and this was most evident offshore? Moreover, that this lack of numbers of bottom fishes was strongly to be influenced by the lack of bottom-dwelling burrowing type of invertebrae which these fishes feed upon? And did he not further find that the bottom was apparently sufficiently compacted so as to exclude soft mud living animals? And this was the result of drilling large amounts of drilling muds.

And finally, did he not note that in leased tracts with heavy drilling pressure, such a situation could become detrimental to the welfare of a considerable amount of, a viable amount of bottom land for a considerable time?

A As I mentioned to you, we try to evaluate all of these in context to the others. That's why we handed in

4 1
2 a disciplinary program.

3 Q May I ask you whether you are -- first of all,
4 are aware if you did come to that conclusion?

5 A Yes. I remember vaguely the details. I am
6 trying to show you where we were subject to the -- when we
7 got the information from the geological survey, we found
8 out that there was a discontinuity in the sediment type
9 at the location and, therefore, there would be a change in
10 the flora because there is a relationship between tissue
11 environment and the type of sediment control factors. It
12 so happens that at that spot that we collected, there happen
13 to be a discontinuity with respect to the sedimentology.
14 So, therefore, we could really come to no conclusion on that
15 which would -- except for that fact. And this now is
16 taking the several reports and putting them together.
17 He did not do any geological work. He just went down and
18 did a survey of the organisms.

19
20 (continued next page)
21
22
23
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25

1
2 BY MR. ZEDROSSER:

3 Q Did you find discontinuity of sedimentation in
4 some of the areas that were the subject of the report which
5 you claim is part of the 75 percent showing no harm?

6 A Unfortunately, the two areas that we selected
7 were at a spot where we did not get constant continuity, yes.
8 This we found out after the fact. Because it's obvious if
9 we had our survey first we would have already been into the
10 research project. This is one of those happenstance that you
11 get into in scientific research. On that portion --

12 Q But the discontinuity in sedimentation didn't
13 effect your ability to accept the results of the other
14 investigation?

15 A In this case we decided to make no interpreta-
16 tion because the group which -- the advisory group which
17 represented the geologist, two biologists and an ecologist
18 decided that the data could be interpreted in several different
19 ways, and, therefore, they elected to put it in that
20 classification with insufficient information to make a
21 judgment at that time.

22 Q Let me ask you the question once more. Is it
23 not a fact that this same sedimentology condition was equally
24 present in the case of the other investigations which you
25 did not see fit to question and in which ended up in that

71 or 75 percent category.

A But the bottom geology merely effected the indigenous organisms that were associated with the bottom. And we felt because of the current structure, which is fairly rapid in that area -- it is up to 2 knots -- that the relationship between the bottom and the water was not one which was subject to the other. Therefore, we felt that from the geological and geochemical standpoints that the bottom sediments probably have had very little effect upon the areas upward around the oil platform.

Q Well, do benthic animals live on the bottom? Benthic organisms?

A Yes.

Q And they were the subject of Report No. 3; isn't that right?

A But there is a difference.

Q Please answer my question.

MR. LAFITTE: Your Honor, I think he ought to be permitted to explain.

MR. ZEDROSSER: He will do that.

THE COURT: He will answer first and then give an explanation.

You may answer.

THE WITNESS: Okay. The bottom organisms are

1 classified into two: Those that live on the bottom
2 and those that live in the water. There are two
3 separate aspects, because the ones that live in the
4 bottom, except for the crabs, and so on, are usually
5 territorially or situated in places they can't move,
6 whereas the bottom dwelling organisms, like the fish
7 and so on, are free to move around. So, therefore,
8 as I said, the current structure was such that the
9 bottom sediments probably had very little significance
10 from a chemical standpoint, although it may have had
11 a significance with respect to the territorial -- the
12 territorial aspects of the behavior of the organism.
13

14 Q Nevertheless, you accept Report No. 3, right?
15 That one wasn't deemed inconclusive?

16 A That's right. Between the group of us, we
17 found that we could make a value judgment from all of the
18 information.

19 Q Now, the same Alison Perry also found, did he
20 not, that it was a matter of concern for commercial fishermen
21 -- and one of which he says they have rightly complained about,
22 that there is bottom obstruction in oil production areas.

23 A I think I mentioned that earlier in the
24 testimony.

25 Q All right. But this is the same Mr. Perry whose

Oppenheimer-cross

report only comes out as being inconclusive; is that right?
He did say this, did he not?

A Yes. I guess so if you say so. Because I
don't remember.

Q Well, let's not leave any uncertainty. Take a
look at that and see if that refreshes your recollection.
The bottom of the page I think it is.

A Yes.

Q And he also cautioned, did he not, against
impeding the operation of the commercial fishing industry by
such practices as not properly cutting off protruding pipes,
not properly burying pipelines and pipeline junctions, and
dumping scrap metal overboard from supply boats instead of
off-loading it at the proper place on shore? He did say that,
didn't he?

A If it's in the papers, then --

Q Well then, will you look --

A That's all right.

Q I don't want you to say something that isn't
true. If you will check it.

That is right, isn't it?

A Yes, that's what it says.

Q Okay. Now, getting back again to the report of
the GURC study, the study indicates, does it not, in figure 1,

5 1
2 that the results of the study number 7 show no adverse effect;
3 is that correct?

4 A Right.

5 Q Now, study number 7 or report number 7 was by
6 Dr. Kritzler, and he dealt with polychaetes; is that right?

7 A Right.

8 Q Now, Dr. Kritzler did a study, did he not, on
9 oil production and polychaetous annelids in a Louisiana
10 estuary?

11 A I think that was the title.

12 Q Didn't he conclude in that report that the
13 conclusion that long term oil production and drilling in
14 Timbalier Bay, Louisiana, has not exerted demonstrable stress
15 on the polychaetes taxocenosis, and is dependent on the
16 controls that we used being good ones? Did he so conclude?

17 A I don't recall.

18 Q All right.

19 A I will take your word for it if you're reading
20 the -

21 Q No. Please take a look.

22 Is that so?

23 A Yes.

24 Q All right. Did he not also say that it turned
25 out the controls were inappropriate if they were any good at

Oppenheimer-cross

all for the studies which they were selected for? Did he conclude that as well? Is that correct?

A Yes.

Q And finally, didn't Dr. Kritzler end up by saying that the whole question on the study was moot and would remain so until the rest of the samples taken in the study were worked up and analyzed? The rest of the analytical scheme planned for the study had been completed and a parallel study was conducted in a bay of similar origin and characteristics, but not yet exploited by the oil industry? Is that not what he said?

A Yes. Are you finished with Kritzler's papers?

Q I am, yes.

A May I make a comment?

Q No, you may not make a comment. I am sure --

MR. LAFITTE: Your Honor, I ask that the witness be allowed to respond.

THE COURT: Yes.

THE WITNESS: Again, it was the committee's responsibility who evaluated all of these things to obtain a valued judgment. We compared the actual work and discussed the work with Kritzler. It is quite appropriate that on a scientific -- from a scientific standpoint that his statements were quite valid. But

Oppenheimer-cross

1 what was not brought out in the text -- and the reason
2 that we put it in in the positive or the category
3 that we did, was that the polychaete concentration
4 was analogous to other similar areas in the Gulf Coast
5 as far as number diversity and biomass. Therefore,
6 if one could conclude from this -- it would be very
7 difficult if proper controls were attained to determine
8 whether you might get better or less effects. However,
9 with the comparisons between all of the other
10 information that we had, it was quite obvious that the
11 biomass and the species diversity of these were
12 indeed in a productive mode which indicated that there
13 was no adverse effects that could be related to the
14 location of the organisms.
15

16 Q But this report, GURC's report that you
17 referred to on direct, says that Dr. Kritzler's report
18 indicates no adverse effects? Now, whatever the council
19 might have concluded, is it not true that Dr. Kritzler's
20 report didn't say there was no adverse effects?

21 A That's true.

22 Q All right.

23 A As I said, it was our interpretation of his
24 working in context with the other information that led to our
25 conclusion. This was the whole purpose of the research

1]
2 base line data was limited your ability to determine the
3 extent to which oil activities affected the relative
4 quantities of the different organisms in a given area was
5 also limited; isn't that so?

6 A Well, I -- I don't know whether this statement
7 came out that we didn't have sufficient comparative data --
8 came from -- because we did.

9 Q You indicated that the pre-'52 data was some-
10 what limited.

11 A But we did our work in '64. That's ten years.

12 Q Well, you pointed out some time ago, in fact
13 on several occasions, didn't you, that there have been oil
14 and gas activities in the Gulf for a long time; right?

15 A Perhaps --

16 Q Well, is that right?

17 A The --

18 Q It's not a very hard question to answer,
19 Doctor.

20 A I answered that, but I would like to qualify it
21 by saying there is a finite room --

22 Q How would you answer it before you qualify it,
23 sir?

24 A Excuse me?

25 Q How would you answer it before you qualify it?

1
2 A That there was a small amount of data
3 available before 1952.

4 Q And that oil and gas activities --

5 A And since -

6 Q -- went on for a long time prior, didn't they?

7 A Oil and gas activities went on for a long time.
8 However we related our information to the capacity of a --
9 of a system to produce, and there are certain analogies that
10 you could draw from this. You are sitting in a spot in this
11 room, you cannot be replaced and still stay in the same spot.
12 This is a simple law of physics, that two objects cannot
13 occupy the same space.

14 A field can produce only so much wheat. There
15 can be only so much capture of energy per unit area. And what
16 I'm saying is that the productivity in our area is synonymous
17 with a healthy environment, as evidenced by the biomass yield.

18 Now, I told you that in previous testimony, that
19 our bays are extremely productive. In Galveston Bay we
20 produce 250 pounds of fish per acre per year as a harvestable
21 yield. In Corpus Christi it's 150 pounds per year, the
22 difference being that more nitrogen and phosphorous is
23 supplied in the areas around Houston than they are in our
24 areas. This is close to the maximum productivity per unit
25 area of the aquatic environment.

1
2 You can't produce any more. Now, isn't that
3 evidence that the environment is healthy, or would you like
4 to say that we can produce more fish than the water could
5 hold?

6 Q Dr. Oppenheimer, I didn't ask you whether the
7 environment was healthy, what I ask you was -- and I'd still
8 like an answer to it --

9 A Okay.

10 Q -- if you can give me one, whether it isn't
11 true that in determining the relative quantities, relative
12 quantities of different organisms in an area both before and
13 after the onset of oil and gas operations, your ability to
14 come to a conclusion is diminished by the lack of base line
15 data? Now, isn't that pretty easy to answer, sir?

16 A I've already answered that yes three times.

17 (Continued next page.)
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1
2 in the range of 81 to 5400 micrograms per gram, is that
3 correct?

4 A Yes. That's parts per billion. Do you know
5 how much a part per billion is?

6 Q I'm not answering questions, but if you want to
7 say what a part per billion is.

8 A I mean it's very difficult to relate the
9 scientific facts unless I know that you are comprehending
10 them. Do you know how much a part per billion is? One
11 dollar in a billion dollars, does that help you relate? Do
12 you know how high a stack of a billion dollars is? We are
13 talking about these concentrations, and in the water we are
14 in parts per billion.

15 Q Okay.

16 A When we talk about differences in parts per
17 billion we are talking in differences between one or two or
18 three dollars per billion dollars. Pretty insignificant from
19 -- from an ecological standpoint.

20 Q All right, let's talk about that a little bit.
21 Are you familiar with a publication called "Petroleum and
22 the Marine Environment" by the National Academy of Sciences?
23 I'm sure you've heard of that, haven't you?

24 A Yes.

25 Q Are you aware that some of the values they

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A Yes.

6

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10

A Are these parts per billion?

11

Q Pardon me?

12

A Parts per billi

13

Q Yes. All right, now, my point here is a very

14

simple one: Those numbers of course are considerably lower

15

than the lowest part of your range -- right? It was 81?

16

MR. HYMAN: Your Honor, there is an

17

objection. I would like the witness to look at the

18

table to verify that it's parts per billion, because

19

when the witness asked "parts per billion?" the

20

lawyer said, "yes," and he was looking at his yellow

21

sheet of paper, and I don't know what figures he was

22

talking about, so can we have that verified.

23

MR. ZEDROSSER: Please, of course.

24

THE WITNESS: It's parts per million.

25

Q Parts per million?

1
2 A Yes. That's why I asked the question. Most of
3 the concentrations in living organisms are related in parts
4 per million rather than parts per billion. Now, do you know
5 how much hydrocarbon is in the cuticle of an apple?

6 Q Well, now, wait a minute here, let's look at
7 your GURC report. Tell me, sir, what that says. Is that
8 milligrams per gram?

9 A No, it's micrograms per gram.

10 Q Micrograms per gram?

11 A Yes.

12 Q And what's this?

13 A That's in micrograms per gram.

14 Q So we are talking about the same thing, are we?

15 A Yes.

16 Q Oh, thank you.

17 A That's parts per million.

18 Q Well then wait a minute. Then on the GURC
19 report it wasn't parts per billion, was it, it was parts per
20 million?

21 A On the living organisms, yes.

22 Q So now we are starting to lecture about one in a
23 million, when it was one in a billion? Weren't you --

24 A That's why I asked you. In the water it's
25 parts per billion; in the living organisms it's parts per

1
2 million.

3 Q My question, sir, was about living organisms.
4 We understand each other now, don't we?

5 A Sure.

6 Q Good.

7 A I understood all along.

8 Q All right, let's take a look at this. So those
9 figures I read, 9, 10, 36, 40, those are somewhat below that
10 81 figure which is at the lower end of your range, isn't that
11 right?

12 A Right.

13 Q Okay, let's take another figure here, the
14 figure of 160 dry for species of clam. Would you take a
15 look at that for a moment and tell me if you know that that
16 comes from the Narragansett area? I assume you are familiar
17 with a lot of these -

18 A I suppose it's probably somewhere in the east,
19 yes.

20 Q Would you know if it's the Narragansett area?

21 A No, not from that.

22 Q Well, you have all these volumes in your
23 library and at home; do you know it from your general
24 knowledge?

25 A I've got several thousands of reprints. Do you

1
2 operating conditions; right? That's what you said before;
3 right?

4 A Um-hum. The organisms were living.

5 THE COURT: Is a fish with that high a
6 concentration palatable?

7 THE WITNESS: It depends upon the hydrocarbon,
8 your Honor. If it's a number 2 fuel oil some of the
9 more volatile, easily taken up things may have a
10 little bit more fish taste. It depends, you know --
11 it's the same way with the different crudes, whether
12 it's a high sulphur crude or low sulphur crude or
13 higher aromatic, because each of the hydrocarbons does
14 have somewhat of a distinct change in odor.

15 But in general if your fish or shellfish do
16 get up to levels I would say above those or around
17 those, they will take on a fishy odor.

18 THE COURT: A fishy odor or -

19 THE WITNESS: I mean an oily odor. And oily
20 odor.

21 THE COURT: That's above what, 2500?

22 THE WITNESS: I don't know whether there is any
23 rule of thumb that you could apply there. It -- it
24 varies. In some cases in -- in Texas we do have
25 areas in abnormal operations where there is a -- there

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1
2 is a lot of spillage, where the oil does taint the
3 fish.

4 THE COURT: What do you do, use it commercially
5 for fertilizer or --

6 THE WITNESS: Eat it anyway.

7 THE COURT: They eat it anyway, they sell it and
8 people buy it?

9 THE WITNESS: Sure, as long as it isn't too
10 great. Louisiana oysters are -- they sometimes,
11 almost always, have a very taint flavor of a hydro-
12 carbon to them. And yet Louisiana oyster production
13 is absolutely fantastic, and it's edible. Excellent
14 oysters.

15 Hydrocarbons are a common component in the
16 marine environment. As I told you, by looking at the
17 indigenous or ambient hydrocarbons, which is at an
18 extremely low level, they are ubiquitous, they have
19 been here since plant life began two and a half
20 million years ago, because I've got bacteria that
21 produce one and a half percent hydrocarbon in their
22 tissues, and many of your Black Sea plants, the
23 cuticle on the leaves is hydrocarbon which washes
24 down into -- into the leaves. There is a description
25 of the different hydrocarbons. Whale oil from the

Oppenheimer-cross

2033.

1
2 you know, some range within those variations, that
3 the hydrocarbons are continually lowered.

4 And when you measure the bacteria you get a
5 higher concentration of hydrocarbon bacteria and you
6 notice areas around the platforms, and at the same
7 time you get low concentrations of hydrocarbons.

8 Now, ten to the five -- that's a ten -- a
9 hundred thousand bacteria, which is not an abnormal
10 concentration of bacteria at the sea surface, will
11 use by oxidation at 22 degrees centigrade 3,000
12 gallons of oil in 24 hours, and this is why we don't
13 have oil up to our you-know-what, because of the
14 continual bacterial policing.

15 Q Dr. Oppenheimer, when you testified at that
16 MAPLA hearing didn't you take note of the fact that in the
17 Atlantic there was a persistence of surface floating material,
18 oil material or tar balls, and didn't you yourself suggest
19 they might persist because the microbial activities were
20 retarded in a more temperature latitude? Didn't you say that?

21 A Yes, I think I can make that statement, because
22 a tar ball does not represent a monofilament on the surface
23 of the water and air that I was describing. A tar ball is a
24 physically round structure of very resistant, fairly
25 complex molecules of hydrocarbon and oxidation process. We

1
2 know that the bacterial oxidation only takes place at the
3 surface of the water-oil interface, and this is why the
4 tar balls persist. So the statement I made is quite correct.

5 Q Right, but the persistence is also related to
6 the difference in climate, did you not so say?

7 A It would -- it would have a -- probably a
8 greater persistence in a colder temperature because the
9 tar ball would take on more of the temperature of the water
10 than the -- than the ambient infrared. It would not act as
11 a surface slick.

12 Q Now, the studies that under the GURC report
13 we are talking about again, those occurred in less than 100
14 feet of water, is that right?

15 A Yes, I think that's pretty close.

16 Q And again with reference to the report, it is
17 not true that the report showed that in Timbalier Bay there
18 was a high range of hydrocarbons in tissue in the concentra-
19 tion of some eleven parts per billion, is that right?

20 THE COURT: Would that be billion or million in
21 tissue?

22 THE WITNESS: Million.

23 MR. ZEDROSSER: Pardon?

24 THE WITNESS: We'll excuse the -- it's 1100
25 parts per million.

Oppenheimer-cross

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Q Well, you say it's 1100 per million?

A I think that's the figure, although --

Q Is it 11 per billion?

A What?

Q Is it 11 per billion?

A It would be 1 per billion.

Q Well, perhaps you can take a look. You have your own copy there, if you like.

A Parts per billion.

Q The top of the range?

A Okay, that's 11,000 parts per million.

Q Yes, but --

A 11 parts per billion.

Q That is what I asked, isn't it, and that is correct, 11 parts per billion; right?

A That is correct.

MR. ZEDROSSER: Could I have one moment, please?

Q In any case to avoid a million-billion problem, I take it that upon looking at it you found it did indeed say 11 parts per billion; right?

A Right.

Q Okay, good.

MR. HYMAN: Well, was counsel right or wrong?

1
2 it would be irrelevant, it would only mean to confuse
3 the issue.

4 I believe that the statements that were made
5 in there relative to the effect of oil, relative to
6 the effect that the coastline, including Chesapeake
7 Bay and Delaware estuary and so on are spawning grounds
8 for most -- I think the figure was 70 percent of the
9 commercial fisheries, plus the statistics for the fish
10 catch supply, the basic information that one needs to
11 know whether the oil is going to impinge itself upon
12 the environment. He doesn't need all of this stuff
13 here. What good would it do?

14 Q Dr. Oppenheimer, is the NMFS spawning data in
15 there or is it not?

16 A No.

17 Q Will you answer -- "No," thank you.

18 Now, you testified that there was no major oil
19 incident in the Gulf since 1949, is that right?

20 A I think that's quoted out of the impact
21 statement.

22 Q Well, no, but that's what you said.

23 A Well --

24 Q Is that right, on direct?

25 A Yes.

1
2 Q You did say that, didn't you?

3 A Yes.

4 MR. LAPITTE: Your Honor, that's not exactly
5 what the testimony was, and I think it's unfair to'
6 pose a question that way. The testimony related to a
7 particular incident. It was a question about the
8 correctness of the year that was mentioned.

9 MR. ZEDROSSER: I believe, and the record can
10 be checked -- I'm perfectly happy for it to be checked
11 -- but the statement dealt with no major oil
12 incidents.

13 THE WITNESS: From about 1969, I think I made
14 the statement, yes.

15 MR. ZEDROSSER: '69?

16 THE WITNESS: Yes.

17 MR. ZEDROSSER: Then I ask the record be
18 checked, because I believe it was 1949.

19 THE WITNESS: So, if I said 1949 it was a slip
20 of the tongue. I apologize to the Court.

21 Q So your testimony is '69; right? Are you aware
22 that in the Gulf of Mexico in 1970 as a result of a production
23 blow-out there was a spill of some 53,000 to 130,000 barrels
24 of oil, called the Shell Spill; are you aware of that?

25 A That was the one I was referring to.

1

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Q Pardon me?

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A That was the last incident that I was referring to, and I obviously had the date wrong. I apologize again.

5

6

7

Q That was the last one, okay. There was another one, wasn't there, in 1970, Chevron, Gulf of Mexico, 30,500 barrels?

8

A 50 barrels.

9

Q Pardon?

10

A 50 barrels. I did the work on that one.

11

Q All right, are you familiar with a book called

12

"Energy Under the Oceans"?

13

A Only to the extent that I've seen it around the

14

tables here at this -- at this time.

15

Q I show you -- this is a publication by

16

Technology Assessment Group Science and Public Policy Program,

17

University of Oklahoma, and I direct your attention to this

18

table.

19

THE COURT: Page?

20

Q Page 304. I ask you whether it is still your

21

testimony that there was a 50,000 -- was it 50,000 barrel or

22

50 barrel?

23

A 50 barrel.

24

Q 50 barrel?

25

A That's the one for the Amoco. Here they have

Oppenheimer-cross

2047 .

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got 400 to 500, and you said 3500. These things, it depends on who you look -- whose data you look at.

Q All right, let's get this straight. Now you're saying that there was a 400 to 500 barrel Amoco spill, is that correct? That's the one you're talking about?

A No, you're saying that. I'm saying it was 50 barrels.

Q All right, we'll start over again.

The one I am suggesting, sir, is not the Amoco spill, I'm suggesting this one: The Chevron 30,500 barrels, 1970, OCS, Gulf of Mexico.

A No, that's the same time as -- near the Shell one, that's about the same date.

Q That's another one, isn't it?

A Yes.

Q I see, okay.

MR. ZEDROSSER: That's it. Thank you.

THE COURT: Any further cross-examination?

MR. KAUFMAN: I'll just be a few minutes.

CROSS-EXAMINATION

BY MR. KAUFMAN:

Q Dr. Oppenheimer, my name is John Kaufman, I represent the Natural Resources defense counsel in this matter. I want to ask you just a few questions, if I may.

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2

A Four and three.

3

Q Which were the four and which were the three?

4

A The yellow version were the four.

5

Q And the green were the three?

6

A Three.

7

Q Any other documents given to you by the law

8

firm or anybody else in connection with your preparation for today's testimony?

9

10

A Oh, yes, I collected data all over the place.

11

Q Well, tell me what documents were given to you

12

by the law firm, and then --

13

A Just these.

14

Q Just these documents?

15

A Yes. Now, since I've been here I've reviewed

16

the other documents of prior testimony. But --

17

Q Now, when did you begin reviewing the seven

18

volumes that you say you received from the law firm?

19

A Almost immediately.

20

Q And you testified earlier that you had about

21

three or four days to read the final environment statements, is that correct?

22

23

A I consider it three or four days total time, yes.

24

Within that time period. I have other chores to do, and I

25

did this in the evenings and -- and during the day, and --

1
2 Q You did this chore of reviewing the documents
3 during the evenings of those three to four days?

4 A No, no, I said three to four days within
5 the time period. I couldn't account for the exact time
6 because I was busy doing many other things.

7 Q Well, can you give us an estimate of how many
8 hours you spent reviewing the seven volumes during that three
9 or four day period?

10 A Like I say, three to four days. I consider a
11 day a ten-hour day.

12 MR. LAPITTE: Your Honor, I don't believe that
13 was the testimony of this witness, and I think it's
14 inappropriate to phrase it that way and confuse the
15 factual matter before us.

16 The witness has testified that he had three or
17 four days working time in a given period.

18 THE COURT: All right.

19 THE WITNESS: That's prior to the time I arrived
20 here. I've spent almost all my time here reviewing.

21 Q During that three to four day period -- Are we
22 referring to three to four calendar days, or are we referring
23 to three to four days of X-number of hours per day?

24 A I was using it in the loose term. Let's put
25 it thirty to forty hours during the time I got the material

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of it --

THE WITNESS: It satisfies me that it wasn't written by a scientist.

Q You don't consider that Donald F. Boesch is a scientist?

A Not as far as any reports that I can recall in hydrocarbons ecology.

Q Do you recall Jerome H. Milgrim as a scientist? You're shaking your head in the negative? Am I correct in reading the body English?

MR. HYMAN: He's thinking.

THE WITNESS: Again, I never read any of his reports.

Q Do you regard him as a scientist?

A I can't say.

Q Do you recall Carl H. Hershner -- H-e-r-s-h-n-e-r as a scientist?

A I don't recognize that.

Q The following statement --

MR. HYMAN: Well, then, I renew my objection. I think even under the new rules, that the text has to be recognized -- it has to be a recognized text of some sort used in some university or for some purpose.

MR. LIKE: The book is a recognized text.

Hoult-cross^{ss}

2188

1 trillion cubic feet of gas --

2
3 MR. HYMAN: They have a proposal increasing the
4 price.

5 THE COURT: I want to know the --

6 MR. HYMAN: Under the old one and the new one.

7 THE COURT: I want to know the present one.

8 MR. TURK: There is a stay on it.

9 MR. BRUCE: Is this on the record.

10 THE COURT: Yes, it is. Certainly.

11 MR. HYMAN: Why don't you give him two values.

12 THE COURT: There's no hurry on it. Any time
13 this week.

14 All right, let's proceed, shall we?

15 CROSS-EXAMINATION

16 BY MR. ZEDROSSER:

17 Q Dr. Hoult, my name is Joseph Zedrosser. I am
18 an Assistant Attorney General of the State of New York.

19 You made a few statements, did you not, on your
20 direct testimony concerning the likelihood of spills reaching
21 Long Island from certain points?

22 A Yes.

23 Q And those points you referred to were simply
24 points within the proposed track area; is that correct?

25 A That's right.

Hoult-cross/Picciano

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importance of the different resource values."

3

4

Do you admit that those would constitute limitations of this trajectory model?

5

6

7

A Well, all the trajectory models does is predict where the center of area of the oil slick is. I don't see why resources enter into that discussion.

8

Q Obviously, you are not a marine biologist.

9

A No.

10

11

12

Q You don't know anything about the -- you know about movement of oil, but you don't know anything about the actual impacts of --

13

THE COURT: He said that a dozen times.

14

15

MR. PICCIANO: All right. I have no further questions.

16

17

THE COURT: I have a couple of questions for you.

18

You studied the center of these oil slicks.

19

20

21

THE WITNESS; Well, that's what the trajectory analysis does. We also have a theory about how it spreads.

22

23

THE COURT: How big can these oil slicks get if you have a substantial blow-out?

24

25

THE WITNESS: Well, to give you an idea, if you assume when the Torrey Canyon went aground, it

1 released instantaneously 30,000 tons of oil. Then in
2 four hours there would be a pool about a mile or a
3 mile and a half in radius and a quarter-inch thick.
4 It spreads very rapidly. So you can make -- you can
5 cover a large area rapidly that is on the order of
6 square miles.
7

8 In three weeks, the Torrey Canyon spill was
9 spread out in lumps over approximately 300 square
10 miles.
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THE COURT: So you could have the center of an oil spill as much as 10 miles off shore and --

THE WITNESS: And the edge --

THE COURT: -- and the edge could substantially damage a beach.

THE WITNESS: If it were fresh oil so that it hadn't weathered, yes.

THE COURT: I am talking about oil that is about 2 weeks old, I would suppose that is what we are talking about.

THE WITNESS: Then if it's two weeks old, yes, the center -- then the center of the area is -- the radius over which the oil would be dispersed about the center would be on the order of miles, if it's two weeks old. On the other hand, at that time it would not be in a slick form, but it would be a series of lumps of stuff.

THE COURT: That could substantially damage a beach.

THE WITNESS: It could.

THE COURT: All right. Thank you. That will be all.

(Witness excused.)

MR. LAFITTE: Your Honor, our next witness is

Smalley-direct

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2 the standpoint of adequacy of the statement to inform the
3 reader concerning a description of a biological community
4 that might be affected by the proposed leasing action, and
5 the impact of the proposed action on the community, what is
6 the significance of the testimony of these parties to whom
7 you referred, in your opinion?

8 A In some ways, that is incorporated in my previous
9 remarks, because again I think the pessimistic side of the
10 impact is overemphasized, or the deleterious effects of oil,
11 of offshore exploration and production is overemphasized.

12 If I were to attempt to put myself in the
13 place of someone who has -- is not familiar with OCS
14 operations, I find no resemblance to the scenario which one
15 would -- would -- which would result from reading these
16 impacts compared with the rather peaceful shores of
17 Louisiana, where oystermen are busy harvesting their oysters
18 and griping like fishermen all around the world, and the
19 sports fishermen are busy catching fish, and everybody's
20 going about their business.

21 There is no oil lying around, there are no
22 explosions, there are no fires. It's certainly -- I -- I
23 really felt a sense of gloom and doom in these impacts.

24 Other than that I think the statement is
25 accurate.

Smalley-direct

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2 Q Do you have any reason to believe that the
3 environmental impacts from the standpoint of biology will be
4 more severe in the Atlantic regions than what was
5 experienced in the Gulf of Mexico region?

6 A I would agree with the impact statement that
7 the -- that there should -- that impacts should not be more
8 severe than in the Gulf of Mexico.

9 MR. LAFITTE: Thank you.

10 Judge, no more direct examination.

11 THE COURT: Any other direct from the
12 defendants? The defendants have no other questions?

13 Do plaintiffs wish a few minutes to arrange
14 their cross?

15 MR. ZEDROSSER: Yes.

16 Actually, I would like to take a look at the
17 exhibit. I don't mean the notes, but the other
18 exhibit. If we could break for an early lunch that
19 would be most appreciated.

20 THE COURT: All right. We can do that. At
21 one o'clock we will assemble again.

22
23 (Luncheon recess.)
24
25

fl/ss

lpml

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2 MR. O'HARA: Your Honor, before we start
3 could I report on an inquiry which we made with
4 respect to Defendant's Exhibit O which was in evidence
5 and the witness the other day questioned the numbers
6 on Appendix A --

7 THE COURT: Yes.

8 MR. O'HARA: -- with respect to gas efficiencies.

9 We have inquired of the Federal Power Commission
10 and are advised by them that there was a mistake in
11 Appendix A, that there was an extra m in the
12 designation MMCF, that the short fall for the
13 Transcontinental Pipeline instead of being 39 percent
14 is approximately 45 percent, and that they are going
15 to issue an errata notice. We have been unable to
16 get a copy of that, but we will deliver it to the
17 Court as soon as it is available.

18 THE COURT: Thank you.

19 MR. O'HARA: I would also ask you to consider
20 the possibility of allowing us to put Mr. Luntz on
21 at the conclusion of this witness' testimony. I had
22 made arrangements with Mr. Lafitte, and I spoke to
23 Mr. Luntz earlier in the week and indicated our problem.
24 It was my understanding that they were all agreeable
25 to this, and I would appreciate the possibility of

1
2 considering putting him on at that point.

3 THE COURT: Let's proceed and let this witness
4 finish his testimony.

5 MR. KAUFMAN: Your Honor, just one other thing:
6 I have a copy of a memorandum we have served on all
7 counsel here. They have been served by mail with
8 respect to your Honor's questions on the coastal zone
9 management. Here is a copy of the brief. The
10 original brief with the affidavits of service by mail
11 will be in my hands by tomorrow morning.

12 THE COURT: Thank you.

13 You have filed it in Brooklyn, have you?"

14 MR. KAUFMAN: It will be filed here tomorrow
15 morning, sir. The affidavits of service have been
16 prepared by mail today. The things have all been
17 mailed. Counsel have all been served here.

18 THE COURT: Well, where is it now, who has it
19 physically?

20 MR. KAUFMAN: My office has it.

21 THE COURT: where is your office?

22 MR. KAUFMAN: Manhattan, sir.

23 THE COURT: Would you have a messenger take a
24 copy over to Brooklyn this afternoon.

25 MR. KAUFMAN: And have it filed? Surely.

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2 ALFRED E. SMALLEY, having been previously
3 duly sworn, resumed the stand and testified further as
4 follows:

5 CROSS-EXAMINATION

6 BY MR. ZEDROSSER:

7 Q Dr. Smalley, my name is Joseph Zedrosser and
8 I'm an Assistant Attorney General of the State of New York.

9 Dr. Smalley, you made reference to a report on
10 the Chevron main pass block 41 oil spill that you had worked
11 on. I looked at your list of publications and I'm wondering
12 are there any other publications that specifically deal with
13 the effects of oil on organisms?

14 A No.

15 Q Now, you testified that for some 17 years you
16 have been traveling by plane and boat and helicopter over
17 various marsh areas, is that right?

18 A Yes.

19 Q Now, that study didn't deal specifically with
20 hydrocarbons, did it?

21 A No.

22 Q When you were in a plane you were looking down
23 at the marsh for whatever purpose, but that was not a
24 hydrocarbon study per se?

25 A That's correct.

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Q Well, prior to the Chevron study referred to, had you ever done any work, whether published or not, dealing specifically with the effects of hydrocarbons on organisms?

A No.

Q How is it that you came to be involved with the block 41 study?

A This was a study of the effect of an oil spill on the biota of the area, and it's necessary in these samples not only to become involved in the design of the experiment but to identify it correctly, as correctly as possible, and to count the organisms involved, and then to assist with the analysis of the results --

Q Doctor, I was asking you how you came to be involved. Perhaps you misunderstood me. I'm sorry.

A I'm sorry, I thought you wanted to know what it was that I did.

Q No.

A I was a consultant for a private company.

Q Well, who approached you as a consultant to get involved in that particular study?

A We offered our services to the Chevron Oil Company.

Q And they of course paid for your work, did they not?

Smalley-cross-zedrosser

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A Yes.

Q Now, you testified at hearings, did you not, concerning the outer continental shelf?

A You'd have to make that a little broader because I have testified on on-shore impacts of outer continental -- outer continental shelf activity.

Q But not on the effects of hydrocarbons in the sense that we've been talking about them today?

A When you use the word hydrocarbons, do you mean specific chemical damage to organisms or do you mean the broader area of damage by oil spills to organisms?

Q Well, all right, I'll withdraw that. Let me go to another point:

At whose behest did you testify concerning the outer continental shelf?

A The firm of attorneys Liskow and Lewis.

Q And do you know for whom they were acting?

A Not when they retained me. I never asked them. But eventually, of course, I found out.

Q And whom did you find out they were acting for?

A I have -- mostly on behalf of the offshore operators committee.

Q Now, you referred to reviewing outer continental shelf impact statements prior to the ones that are

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2 of wetlands had disappeared, is that correct, over a period of
3 about twenty years, along the coast of Louisiana?

4 A I did not say that. That is in my statement.

5 Q Well, then, you said -- you were talking about
6 how some of the -- the disappearance; some comes from
7 subsidence and some comes from dredging in canals and ponds;
8 isn't that correct?

9 A That's correct.

10 Q But what you did say, if I am correct, is of
11 this 16 1/2 square miles a year 9.03 were due to natural
12 processes such as subsidence and erosion and 7.48 were due to
13 canals and ponds?

14 A That's correct.

15 Q So that's about 7 1/2 square miles a year
16 were disappearing?

17 A That's correct.

18 Q About how long a period was that, about twenty
19 years or thirty years?

20 A Oh, you mean the original studies?

21 Q Yes.

22 A If I remember correctly, the author of the
23 original study used approximately a twenty-year interval.
24 I -- I would really have to go back to the original study.

25 Q So it's about -- so it would be about 300

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Smalley-cross/Kaufman

2260

2 square miles that disappeared?

3 A Yes, if those figures are correct.

4 Q So that would be about one square mile of the
5 whole coastline of Louisiana if we averaged it out; is that
6 right, over a twenty-year period?

7 A Yes, approximately.

8 Q Now, one of the other things you said at that
9 time was that 7.43 square miles a year, about, over a
10 twenty-year period had disappeared as a result of dredging
11 or other manmade causes; is that right?

12 MR. BRUCE: Your Honor --

13 A When you say I --

14 MR. BRUCE: Before the witness answers may I
15 register an objection? It seems to me that what
16 Mr. Kaufman is attempting to do now on the cross-
17 examination of this witness, whose direct testimony
18 was the effects of hydrocarbons and oil on various
19 organisms, is attempting to bring in some testimony
20 made several years ago on some of the physical aspects
21 of the use of land, etc., an area that I don't believe
22 was covered on direct examination. It seems to me
23 this is beyond the scope of direct and improper cross.

24 THE COURT: Well, can you give us any help on
25 this?

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Smalley-cross/Kaufman

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A That is correct as it stands, but I was citing these results from another study.

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THE COURT: Overruled.

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A Okay.

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Q Now, did you mean by that to the drilling or to the onshore industry, that is to the plants and other things that exist along the coastline?

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A No -- no, I mean that most of it is due to onshore.

Q That's correct?

A Yes, that's right.

Q That's what I wanted to know, that it is due

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2 A There is a large petrochemical industry in
3 Louisiana.

4 Q Would it be approximately 100 plants; do you
5 have any idea?

6 A It seems a little high, but I would say 50 to
7 100.

8 Q It's not like 5?

9 A No.

10 Q 50 to 100 would be all right. I would ask you
11 just one other question, Doctor: Do you know, well, a couple
12 of questions -- have you ever heard of a gentleman named
13 Robert Bibey?

14 A Yes.

15 Q I would like to ask you if you would agree with
16 this statement that he made: "I think what you see in the
17 Gulf of Mexico or the south of Louisiana was this
18 imperceptible, almost, moving out of the highlands into the
19 marshes and estuaries and then offshore, and in those days
20 many of us were not thinking of the environment and we
21 pretty well did rape the land."

22 And that was Mr. Bibey speaking. Would you
23 agree with that statement?

24 A Not in its entirety.

25 Q Would you consider that lands had not been

1
2 Donkin, and I am familiar with the studies of the Federal
3 Power Commission. The figure that he gave was 2,750,000,000
4 cubic feet daily, if I read that correct.

5 Q What amount of the shortfall would that cover?

6 A Of the shortfall in this Appendix A, that would
7 cover only about 25 per cent. If all of those -- all of the
8 presumptions that Mr. Donkin made were true, approximately
9 25 per cent of the shortfall that is listed on Appendix A
10 might be overcome then by that additional production.

11 Q Do you have any reason to question the accuracy
12 of the figure given by Mr. Donkin?

13 A Yes. I believe Mr. Donkin included at least
14 four trillion cubic feet. That is also included by the
15 pipelines in their reserve estimates.

16 In other words, this is gas which may be at
17 different levels in the same well. If you're drilling a
18 well and you go through multiple sands, for example, you will
19 not begin to produce the sands that would produce at lower
20 pressure. You will produce the higher pressure sand first
21 and keep the lower production sand for a time when you can
22 use that same well to produce the upper or lower pressure
23 sands.

24 I think probably four trillion cubic feet of
25 the -- of the estimates that Mr. Donkin made are in that

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Luntay-Cross-Zedrosser

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1 Q Mr. Luntay, my name is Joseph J. Zedrosser.
2 I'm an Assistant Attorney General of the State of New
3 York.
4

5 Mr. Luntay, did you testify on July 18th, 1975
6 before the ad hoc select committee on the outer continental
7 shelf of the United States House of Representatives?

8 A Yes, I did.

9 Q That's the so-called --

10 A I think I did. I can't be sure of the date. I
11 certainly testified before it.

12 Q It was about that time?

13 A Yes, in the City of New York.

14 Q In other words, that's the Murphy Committee.

15 A Yes, that's correct.

16 Q And did you testify at that time as follows:

17 "There is excess gas in Texas now. We
18 cannot buy it. We have been offered that gas and we cannot
19 buy it because of the legislation which says that the
20 regulated price is the one that applies to interstate pipe-
21 lines. I'm not saying that Congress has not recognized the
22 energy problem in this country, but my problem is that I
23 think they are playing politics with it."

24 A That sounds like something I would say. I
25 did say that, yes.

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Luntay-Cross-Kaufman

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A Then the figures are exactly the same as Mr. Donkin's, because he assumed a ten trillion cubic feet reserve, and if there is ten trillion cubic feet discovered in sale 20 25% of the short fall of these companies would be supplied from that one sale.

Q You have testified as to the -- withdrawn.

In Exhibit CC, Defendant's Exhibit CC, the no growth scenario for state-wide gas requirements and supply, you show a number of calendar years beginning with 1976, continuing in the last column to 1985, and under each calendar year column you show an estimate of either the surplus or deficiency for the respective years.

Do you have the copy of your exhibit in front of you?

A Yes, I do.

Q Under the year 1977 you show a deficiency of 13060, is that MCF?

A That's 13 billion cubic feet. I prefer to handle it in billion cubic feet. It's 13 -- 13 Bcf MCF, that's correct, yes.

Q Would you agree with me that that deficiency in 1977 could not be alleviated by production from the OCS sale 40, even if the least sale were to occur on August 17th?

A Oh, I would certainly have to agree with that

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Luntz-Cross-Kaufman

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because no gas will be produced from these leases for probably five years. It takes that long to get into production and -- into production on a lease.

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Q Is five years an optimistic assumption, or would you be willing to agree that it might be longer than five years?

8

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A Could well be longer -- five to eight years is the period that is generally used. Now --

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Q All right, now if you assume an eight-year lag between the lease sale and the production of gas in commercial quantities, I assume then that there will -- there would be no relief that would be forthcoming from production on lease sale 40 until the year 1984.

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A I think that's reasonable to assume that it will take that long to get significant production from the outer continental --

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Q If, for the sake of argument, we extend that year to 1985, which is the year that appears in your exhibit CC, you show for the year 1985 a deficiency of 40 million cubic feet; is that correct?

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A That's correct, yes.

Q Over what time frame?

A That's per year.

Q That's per year?

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cover the deficiencies of New York State?

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A It could, yes.

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Q Now let's go back --

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A There are a lot of assumptions in there, and

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that is that the maximum production is reached and that the maximum reserves are discovered, of course.

8

Q And your estimates now have been on using the

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optimistic high end of the range, is that correct?

10

A That's correct, yes.

11

Q Now, if it were possible to increase production

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from producible shut-in leases or non-producible dedicated reservoirs how soon could that gas be flowing into New York gas consumption markets?

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A If Mr. Donkin's assumptions are correct and --

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and these are connected reserves that are being held back

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and they are already connected to pipelines, those reserves

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could be theoretically produced immediately. If they are

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not connected to pipelines, you would have to allow a period

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of time, probably up to two years, before pipelines are laid

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to the leases in the -- in the Gulf of Mexico, and the gas

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could be produced from those leases.

23

Now, I -- I'm not sure from his testimony

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whether he meant that the production wells had been drilled

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to prove these reserves, because that of course would be

Luntay-cross

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2 necessary, to drill the production wells.

3 Q Given your qualifications and assumptions with
4 respect to the accuracy of Mr. Donkin's estimates, am I
5 correct in stating that gas released from producible shut-in
6 leases and dedicated gas reservoirs would bring relief to
7 the New York State gas market sooner than production from the
8 OCS Sale 407?

9 A I think there is no question that the gas that
10 is now ready to produce and could be produced within a two-
11 year period should and would and -- and ought to be produced
12 to relieve these shortages immediately.

13 Q I'd like to go back now to your table exhibit
14 CC, Mr. Luntay.

15 A I should put the numbers on these.

16 Q Yes, this is the statewide gas requirements and
17 supply --

18 A That's right.

19 Q -- no growth requirements scenario.

20 A Right.

21 Q I making the estimates which appear on this
22 exhibit, what assumptions if any were made regarding the
23 price of natural gas during the years in question?

24 A These are estimates from our pipelines as to
25 their ability to -- to supply gas, and these estimates were

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2 made I'm quite sure in June of this year. And that would
3 be before the FPC decision.

4 Q At what price levels then were these estimates
5 based?

6 A At that time the regulated interstate price was
7 52 cents.

8 Q Are you able to sensitize that figure in this
9 way, Mr. Luntz: Assume that the price level for the sake
10 of constructing a similar chart or a similar table were the
11 price level that has now been approved by the FPC, what change
12 if any would you have to make in the estimates of gas
13 supplied and either surplus or deficiency on the bottom line?

14 A Well, on my own estimate -- and -- and I have
15 to differentiate that from Mr. Donkin's estimate --

16 Q I'm talking about your own estimate now.

17 A Yes, my own estimate is that there is not any
18 significant quantity of gas that can be immediately produced,
19 so the \$1.42 would stimulate additional gas drilling and
20 additional gas production on shore and offshore. And in that
21 respect the later years, 1975 -- or 1979 to 1985, there might
22 be a revision in the pipeline's estimate of their demands.
23 Now, there is no -- no proof one way or the other that --
24 that that price will or will not produce extra gas.

25 Q If I understand you correctly, you're saying

Luntay-corse

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2 that if the price were the price that was recently approved
3 by the FPC that you would have to change the supply figures
4 for the 1979 year column to reflect an increased supply of
5 gas?

6 A I'm saying that the pipelines might reevaluate
7 their -- their estimate of supply in those years. If the
8 price does in actuality produce additional production --
9 natural gas production and drilling.

10 Q Well, in your opinion and based upon your
11 experience, would an increase in the price call for additional
12 supplies?

13 A Yes, I -- I actually believe that the \$1.42
14 will cause a significant increase in -- in drilling.

15 Q So that as I correct in stating that the
16 supply figure which you show in the 1979 column as being a
17 597,130 would be a substantially higher figure?

18 A It could be, yes.

19 Q Is it likely that it could be --

20 A I think it's -

21 Q -- in your opinion?

22 A -- likely that it will be higher than it would
23 have been at 52 cents, on which these figures were based.

24 Q Do you have a back-of-the-envelope estimate
25 as to how much higher it would be? Would it be doubled,

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2 would it be 25 percent higher?

3 A I couldn't begin to estimate.

4 Q Has your company or any trade association with
5 which your company is connected made any estimates of a
6 sensitivity judgment nature to calculate what additional
7 supplies will be coming onto the market at the increased
8 price of \$1.42?

9 A I don't know of any such studies, no.

10 Q Do you know whether the industry has presented
11 any data to either the Federal Power Commission or to any
12 Congressional committee or to the Federal Energy
13 Administration or any other regulatory body making estimates
14 as to what an increase in gas prices would result in in
15 terms of additional supplies of gas?

16 A Well, a number of years ago there -- there were
17 studies introduced which showed various price levels versus
18 expected increased production. Now, that was considerably
19 before the intrastate price went as high as \$2 and I think
20 those studies -- and I don't have those studies with me,
21 obviously, but I would think those studies would be well out
22 of date now considering the intrastate price of gas.

23 Q Are you saying then that you know of no
24 current estimates of what the additional gas supplies would
25 be if the price were assumed to be \$1.42?

Luntay-cross

2327

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2 A I don't know of any definitive studies of that
3 kind.

4 Q If in fact the gas supplies for 1979 were
5 increased to reflect a response to higher gas prices or to
6 the higher gas price of \$1.42, then I take it you would
7 agree with me that the deficiency shown in that column would
8 have to be accordingly reduced?

9 A Yes it would.

10 Q And at this time you have no figure that you
11 can give us or a range of figures as to what the deficiency
12 would be at the increased price of \$1.42?

13 A No, I don't.

14 THE COURT: Don't answer.

15 MR. LIKE: Sir?

16 THE COURT: You are getting very repetitive.

17 MR. LIKE: I'm sorry, your Honor, I didn't
18 intend to. I wanted the table to be connected with
19 the record.

20 Q Do you have an opinion as to the likelihood
21 of further increases in gas prices above \$1.42?

22 A Yes I think there is a built-in escalation in
23 the \$1.42. It's one cent per -- per 6 months, I think it is.
24 I'd have to look at that -- that order, but there is a
25 built-in escalation in addition to the \$1.42. The producers

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2 State Gas Report, which is a very thick volume that -- that
3 shows in quite a great detail the calculations for each and
4 every company within the state.

5 Q Are the conservation measures that you have
6 described in the nature of voluntary conservation at the
7 urging and at the education provided by the industry?

8 A Yes, they are -- they are conservation measures
9 that the companies do voluntarily, but certainly at the
10 urging of both New York State and the Public Service Commission
11 of New York State.

12 Q Have you made any assumptions as to the amount
13 of energy conservation that might result from mandatory
14 measures and from the effect of legislation such as the
15 recent Energy Policy Supply Coordination Act?

16 A Well, I -- I got today, interestingly enough,
17 an energy conservation bulletin. I am an elected official
18 of the Village of Sands Point, and this came from Francis E.
19 O'Connor, Commissioner and Energy Administrator for the
20 County of Nassau. And it says "The Federal Energy
21 Administration is presently considering energy conservation
22 contingency plans for implementation without notice in the
23 event of a severe energy supply interruption."

24 And as background it says "The plans for
25 energy conservation, rationing of gasoline and diesel fuel

Luntay-cross

2331

1 are for energy emergencies and to fulfill the U.S. obligation
2 to the international energy program. Imported crude oil now
3 exceeds 7-million barrels per day as our domestic production
4 is declining. We crossed the 50 percent line in March 1976"

5 Q Excuse me.

6 A Then it goes on to -- to outline mandatory
7 conservation measures.

8 Q All right, my question was, Mr. Luntay --

9 A And we have not had a chance under these
10 listings to -- to calculate how much the energy saving would
11 be.

12 For example it lists thermostat settings of 63
13 degrees. Now, we can urge our customers to set their
14 thermostats at 63, but there is no way that the gas company
15 can go out and police that.

16 Q Am I correct in stating that in preparing
17 Exhibit CC and in making your estimate of gas demand, you did
18 not take into account or attempt to quantify the impact of
19 mandatory conservation measures, such as some of those which
20 you have just read off?

21 A No, we certainly did not assume that our
22 customers would be subjected in New York State to anything
23 nearly as severe as these curtailments.

24 (Continued next page.)
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JB:jk

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Luntsey-cross/Like

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2 Q Wall, aside from the curtailments which you
3 just described, have you made any assessments of the impact
4 of conversion measures such as those that are offered by
5 the energy supply and control act?

6 A I am not familiar exactly with what it is that
7 you are referring to.

8 Q Turn to another subject, Mr. Luntsey. Am I
9 correct that the subject of reserves, gas reserves that you
10 are relying upon in your assessment of the gas shortage are
11 the reserve estimates that have been put out by the American
12 Gas Association?

13 A The estimates that are given on Exhibit CC are
14 estimates directly from our pipelines, and their ability to
15 purchase natural gas over that period of time, and have
16 nothing at all to do with the estimates that the American
17 Gas Association in connection with the -- that a great number
18 of other experts publish.

19 Q Well, what -- on what are the estimates of the
20 pipeline -- where do they get their estimates of gas
21 reserves?

22 A They are based on their field operations.
23 They go out in the field all the time endeavoring to purchase
24 natural gas. They have connected to their line a certain
25

Luntay-cross/Like

number of wells. And they know quite accurately the life of those wells because of their history of production. Their estimates are based on what they consider their best ability to purchase natural gas through this period of time.

Q Well --

A They are not necessarily on any widespread reserve estimate such as the American Gas Association estimates.

Q Well, ultimately, aren't their estimates of gas reserves based upon certain assumptions as to how much gas is out there in the fields?

A Obviously.

Q Don't you have to -- don't you have to get some indication from the natural gas producers as to what they consider to be their reserves?

A No question about it. There is no question about it.

Q Do you have any numbers as to what the natural gas producers estimate to be the gas reserve?

A No, I do not.

Q Are you aware of certain hearings that were held by Congress regarding the subject of energy data requirements of the federal government, resulting in the issuance of the report of the Subcommittee on Activities of

Luntz-cross/Like

regulatory agencies of the Permanent Select Committee on Small Business, which report dealt with the problems of reserve reporting and discrepancies in reserve reporting?

A Yes, I am aware of these hearings.

Q Could you tell us what the controversy was with respect to the estimates of reserves and the problem of reporting reserves?

A Yes. The controversy was that the American Gas Association, in order to allow its members to more prudently plan for the future has for many years gotten together what it considers to be the most reliable reserve of energy -- of gas energy, proven reserves. These are fields that have been drilled and to a certain degree have reliability. You can -- it depends on what the reserves are in those fields. And then taking the known data from a large number of sources and putting that data together with certain assumptions for fields not known, the American Gas Association for its members has published for many years a total proven reserve estimate for the United States. These hearings challenge those reserve estimates and said that they were too low, said that there was far more gas available than were shown in the AGA reserve estimates, but did not go on from there to show how such gas could be produced and delivered to the State of New York.

Lantey-cross/Like.

Q Did you agree with the findings of the Committee that the American Gas Association has been understating gas reserves?

A No, I certainly did not. And I think that the findings of that committee have come under considerable questioning.

Q Do you agree with the finding that the American Gas Association reserve estimates were regarded as unreliable and misleading?

A I certainly don't agree with that. And the point of all this is that if they are twenty-five per cent too low, we are perfectly willing to take the higher figure of reserves. It doesn't make a bit of difference in the need for outer continental shelf drilling as to whether those reserve estimates are 25 per cent high or 25 per cent low. They are a guess, at the best. And they are the best guess that the American Gas Association with all its various members can make at this time. But to deliver gas to New York, you have to produce it at a price, which I think the Federal Power Commission has done now, and you have got to get people in drilling areas where there may be gas. And that's why the outer continental shelf is so important.

Q All right.

MR. LIKE: Your Honor, this concludes my --

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Luntay-cross/Like

I am sorry, withdrawn.

I would like to ask the Court to take judicial notice of the energy data requirement report that I have identified, and in particular pages 32 through 35, concerning the problems of gas reserve reporting and the discrepancies in reserve reporting, and containing the findings with respect to the unreliability of the American Gas Association reserve estimates.

THE COURT: Mark it in evidence.

THE CLERK: Report received in evidence as Plaintiff's Exhibit 115.

Q Mr. Luntay, are you aware of the report that was prepared in November, 1975, entitled, "Natural Gas Supplies: Declining Deliverability at Bastian Bay Field, Louisiana," a report by the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, House of Representatives, which makes certain findings as to the causes of the decline and deliverability of natural gas at Bastian Bay filed in Louisiana?

A I am not aware of that report. We have been in the Bastian Bay case for many, many years but --

Q When you say "we have been" --

A Brooklyn Union, in the federal area, it has

Luntay-cross/Like

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been.

Q Does Brooklyn Union have an interest in the Bastian Bay fields -- the gas fields?

A I have to consult with Mr. Dunlop as to whether we get any gas from Bastian Bay. But some of the issues in the Bastian Bay field are of course of natural gas interest.

Q Would you tell us what the issue there is and what bearing they --

A Again, I am not familiar with this report so I can't tell you.

Q Well, do you have any independent knowledge of the findings of the --

A No.

Q (Continuing) -- of the committee?

A No, I don't.

Q Well, let me see if I can refresh your recollection, and perhaps through the trade association or through the report that you read or the information that comes to your attention as the executive of the company, this might ring a bell.

"The report is an in-depth analysis of the causes underlying the sharp and unexpected decline in production of natural gas from a large field dedicated to interstate commerce."

I am skipping.

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1 "The report concludes that the two producers--"

2
3 And in this instance, the two producers were
4 Getty Oil Company and Tenneco, Inc.

5 "have not undertaken sufficient drilling to
6 maintain deliverability in this field, with the
7 result that the field may be produced over a period
8 of 52 years instead of the 20 to 25 years originally
9 contemplated or the industry standard of fifteen to
10 twenty years."

11 MR. O'HARA: I object. Counsel is apparently
12 reading information into the record under the guise
13 of a question. The witness has said he is not
14 familiar with this report. He has indicated that his
15 company, has been involved in some way in the Bastian
16 Bay case, but he said he doesn't have direct knowledge
17 of it.

18 THE COURT: I will permit it. Obviously, he
19 is going to ask a question after he finishes reading.

20 Give us the page.

21 MR. LIKE: Roman III. It is the first page
22 inside the cover.

23 Q "The report concludes that the two producers
24 have failed to resolve substantial differences of
25 opinion on the geology of the field with the result

Luntz-cross/Like

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2 that development has been delayed. It further
3 concludes that the producers have failed to conduct
4 studies of appropriate ways to accelerate production
5 of the field, as recommended by one of their
6 petroleum engineers. The report thus represents
7 further evidence that gas producers which anticipate
8 higher prices as a result of contemplated deregulation
9 of natural gas prices have failed to do needed work
10 in order to maintain deliverability."

11 Does that refresh your recollection as to the
12 subject matter of that investigation?

13 A I remember reading that kind of accusation in
14 the literature, yes.

15 I have not read this report.

16 Q Do you have any knowledge which would enable
17 you to either confirm or refute the findings of the
18 committee?

19 A No. I suggest that we await the results of
20 the \$1.42 and see if the Bastian Bay field starts to produce.
21 And that would prove that these companies have been
22 delinquent in the past.

23 Q Well, Mr. Luntz, the report states that one
24 of the factors that is responsible for the supply shortage
25 in the interstate market is the declining deliverability of

1
2 gas from already-developed gas fields. And this statement
3 appears on page 2. Do you agree with that finding?

4 A We know that it's true because if you drill a
5 gas field it starts declining from the day you start
6 producing.

7 Q Do you agree with the findings of the
8 committee as the cause of the deliverability?

9 A No, I have no direct knowledge as to whether
10 Getty and the other company were directly for deregulation
11 or not.

12 MR. LIKE: I offer the report in evidence.

13 THE COURT: All right, I will take it.

14 THE CLERK: Report received in evidence as
15 Plaintiff's Exhibit 116.

16 MR. LIKE: That concludes my cross-examination,
17 your Honor. I would like again at this point to
18 underscore the offer of proof that we made as to any
19 competitive impact, and, of course, the extent to
20 which any competitive considerations are responsible
21 for the gas supply shortage and withholding of
22 supplies from the market. I believe it is an issue
23 relevant on the question of reply responses.

24 THE COURT: All right. Anything further?

25 MR. PICCIANO: Yes, your Honor.

Page

Numbers

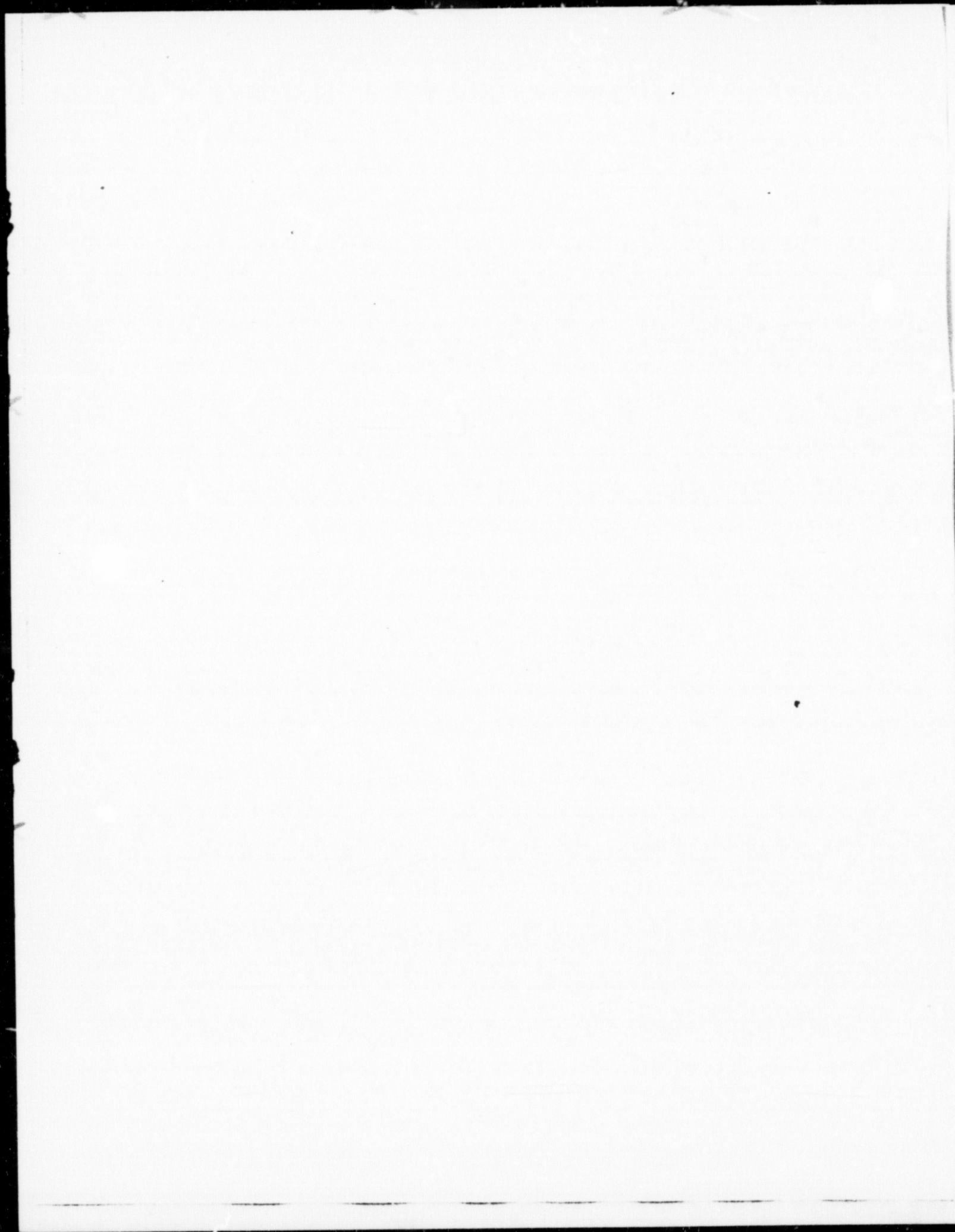
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Included in

This Appendix



3 1 Wenstrom-direct

2 THE COURT: Admit it.

3 MR. ST. JOHN: I have a few brief questions
4 dealing with Dr. Wenstrom's professional experience,
5 your Honor.

6 Q Dr. Wenstrom, have you studied the possible
7 onshore effects of the Mid-Atlantic lease sale No. 40?

8 A Yes, I have. Beginning in late 1974 -- I
9 believe in about November or December of that year, a
10 colleague and I in the WCC office in Houston, Texas, began
11 to develop a concept and a scope of work for study that
12 would relate to the onshore effects in the Mid-Atlantic area.
13 We subsequently wrote a proposal to the American Petroleum
14 Institute for funding. And we are authorized by UPI to
15 carry out the study that we had proposed. I believe that
16 was in January of '75.

17 We subsequently initiated the study, worked
18 on it for a period in -- in Texas for a period of about six
19 or eight months, prepared final and draft reports, and
20 submitted our reports to UPI. It was accepted by them and
21 released to the public in October of 1975.

22 In connection with that study, I was the
23 Project Manager for Woodward Clyde Consultants in which I
24 essentially had administrative and technical responsibility
25 for the work for the time it was commenced until it was

1
2 completed in October of that year.

3 Q Over how long were you involved with the
4 project?

5 A I have been involved in this particular project
6 since -- I mention late in '74 when we began to conceive the
7 idea for the study, up through and including preparation and
8 sufficiency of the report, and then some follow-up work
9 which included presenting the environmental -- the findings
10 of the study at the hearing held in Ocean City, Maryland,
11 last January, and a small amount of additional work. So I'd
12 say I was involved with this program, with this study, since
13 about October, 1974.

14 Q Have you conducted other similar types of work?

15 A Yes. In some of the studies or work that we
16 have done for the companies that is not listed in my
17 published list -- and I ought to clarify that point a little
18 bit.

19 I am an environmental consultant in work for
20 -- then and now for professional environmental consulting
21 firms. Often in the course of our business we have
22 prepared studies and especially reports which we individually
23 and -- and we are not free to release these to the public
24 because they contain proprietary information. They are to
25 be used in regulatory type of proceedings before the FPC or

Wenstrom-direct

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the NRC or some other type of regulatory body. And, therefore, the clients consider the information in those reports proprietary.

Similar studies of that nature that I have done both in the Mid-Atlantic coastal areas as well as in the Gulf Coast include work related to LNG, liquified natural gas imports, terminal pipelines, and similar type of industrial development. These include studies as well as environmental reports.

MR. ST. JOHN: Your Honor, I move that Dr. Wenstrom's qualifications as an expert on offshore effects be admitted.

THE COURT: You may have a voir dire on this issue.

VOIR DIRE EXAMINATION

BY MR. KAUFMAN:

Q My name is Mr. Kaufman. I represent the National Resources Defense Council.

Would I be right in saying that your background until you thought about this proposal in late 1974 really didn't involve anything in the Mid-Atlantic?

A No, that is not correct.

Q Have you studied the Mid-Atlantic region before then?

FL:jk
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Wenstrom-direct

Q Dr. Wenstrom, can you generally describe how one goes about making studies of possible onshore impacts of OCS development?

MR. LIKE: I can't hear you, sir.

Q Dr. Wenstrom, can you generally describe how one goes about making studies of possible onshore impacts of OCS development?

A Yes, I think essentially there are four steps or -- or at least four subject areas that need to be considered in conducting such a study. The first of which, and probably the most important, of course, is to determine what the location and recoverable quantity is of the reserve, either oil or gas, you are talking about.

The second area in which you have to investigate is to make some determinations, some assumptions or otherwise, about what the probable activities of the extractive industry in going out to that quantity of reserve is going to be.

The third area you need to take a look into is to develop some understanding, some existing baseline information concerning the onshore, both the onshore and the offshore areas that are going to be affected during the course of its development program.

And lastly, you need to make some projections

Wenstrom-direct

on at least two sets of that information. First of all, you have to project your baseline information ahead into the future or over whatever the life span of the development program is likely to be, and secondly, you also have to be able to project the development program over the same number of years into the future.

If you superimpose then your development program or any other activity on your baseline projection in the absence of the activity it leads you to make some conclusions about what the effects of the program are likely to be.

I should add that it's basically the method that we followed in conducting the Mid-Atlantic regional study, and it's almost identical to the method followed by BLM in compiling the environmental impact statement on OCS Sale No. 40.

C Are there any uncertainties involved in conducting this kind of study?

A Again the answer is yes, there are important uncertainties connected with at least two of those aspects: the first of which, and probably the least important, although it's a significant uncertainty factor, is what our current ability is to project a lot of variables too far in the future. It's generally true that especially in the

3
1 area of -- of the non-hard informational kinds of things like
2 land use and socioeconomics, and so forth, that the further
3 one projects -- and in this case we are talking ten or
4 fifteen or twenty-five or thirty years into the future -- the
5 less certain one can -- one can be in one's results.
6

7 Obviously--

8 Q Excuse me, Doctor. I wonder if you could speak
9 a bit more slowly.

10 A Thank you. And of course the second area--
11 that's the first area of -- of uncertainty that becomes
12 important in these types of studies.

13 The second area of uncertainty of course is the
14 one that you need to attack up front, and that's the one that
15 has to do with reserve estimates, particularly if you are
16 talking about oil and gas development programs and their
17 location, wherever they happen to be.

18 In this case we are talking about reserve
19 estimates that are essentially guesses, although highly
20 educated guesses, on the part of -- of USGS petroleum
21 engineers, but they are subject to a high degree of uncertainty.

22 Q Where did you get the oil and gas reserve
23 estimates you used in the Mid-Atlantic regional study?

24 A When we began the study in January of 1975
25 essentially the only information we had available to us --

Wenstrom-direct

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2 I'll retract that. We had several sets of information
3 available to us concerning reserve estimates. We chose to use
4 USGS figures that were derived from data of March 1974.
5 From these figures we derived reserve estimates for the
6 Mid-Atlantic region in the order of 6 million barrels of
7 recoverable oil and 32 trillion cubic feet of recoverable
8 natural gas.

9 Subsequent to our establishment of those
10 figures the USGS in -- in May of 1973 reduced their estimates
11 substantially in -- in relation to the data that we had
12 based our assumptions on.

13 Q Are you familiar with the sale 49 EIS?

14 A Yes, I am.

15 Q What pages in that document have you concentrated
16 on, Doctor?

17 A In preparing for the hearings in Ocean City,
18 Maryland last January which I attended and at which I
19 testified, I became generally familiar with the entire
20 content of the draft environmental impact statement.

21 Subsequently, however, I have concentrated
22 mostly on Vol. 2 of 4 of the final environmental impact
23 statement, most notably Section III and part D, which is
24 entitled, "Onshore Impact of Oil and Gas Operations," and
25 specifically on pages approximately 216 through 353 of that

5 1
2 volume.

3 Q Do you know what reserve estimates were used
4 by BLM in preparing the sale ' ' EIS?

5 A Yes, on page 216 of that document BLM states
6 that they -- on the basis of 154 tracts, including somewhat
7 less than nine million acres in the Mid-Atlantic area, they
8 were utilizing reserve estimates in the range of 0.4 to 1.4
9 billion barrels of oil and corresponding estimates for gas.

10 They also utilized based on a two million acre
11 or a high discovery case basis an estimate of 2.6 billion
12 barrels of oil and slightly less than 13 trillion cubic feet
13 of gas. These latter estimates, the high discovery case
14 estimates, were also used in compiling technical paper No. 1.

15 MR. KAUFMAN: Your Honor, may we have the
16 witness' notes marked?

17 THE COURT: Yes, mark the notes for
18 identification.

19 THE CLERK: Notes marked for identification as
20 Defendant's Exhibit FF.

21 THE WITNESS: If you don't give me my notes
22 back we can't go on.

23 Q Doctor, do you know why there is a difference
24 between the reserve estimates that you used and the ones
25 used by the BLM?

Wenstrom-direct

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2 A I don't know -- I don't have firsthand knowledge
3 of that. I suspect it's because the substantially lowered
4 USGS reductions were the ones that were utilized by BLM in
5 arriving at their resource estimates.

6 Q You mentioned that the second thing you need to
7 know to make such a study is the probable industry activity.
8 Where did you obtain this information?

9 A Information of that nature we gathered from
10 primarily three different sources. First of all, we
11 accumulated and read a wide number of publicly-available
12 industry publications. These included things such as the Oil
13 and Gas Journal, Ocean Oil, Ocean Week and other similar
14 types of -- of serial publications.

15 We also had access to a wide variety of -- of studies
16 that were publicly available from the American Petroleum
17 Institute, the Offshore Operators Committee and similar types
18 of oil and gas industry trade associations.

19 We were also advised during the conduct of the
20 study by an advisory -- an API advisory committee that was
21 composed of some dozen representatives of the oil and gas
22 industry.

23 Q And how did the BLM obtain that same sort of
24 information?

25 A Judging from the --

MR. BIALIK: Objection. Do I understand that the witness is being asked how BLM obtained information?

Q Based on the HIS recitation, if there is any, how was that information obtained?

A Well, the final environmental impact statement of course includes a bibliography. Also several summary tables and other types of -- of presentation within the environmental impact statement are attributed to certain sources. Included in the bibliography as well as in some of the tabular presentations are references to, for example, the American Petroleum Institute and the Offshore Operators Committee, so my presumption is that the BLM used essentially the same types of sources that I did.

Q Doctor Wenstrom, you have reviewed the section of the site-specific HIS for onshore, haven't you?

A Yes, I have.

Q Have you formed any impressions concerning that?

A Yes, sir, I have. My general overall impression is that the final environmental impact statement more than adequately treats the possible onshore impacts of this outer continental shelf operation, but I'd like -- I'd like to comment on that further by amplifying it a little bit and stating a minor objection to the use of the term "site-specific."

Wenstrom-direct

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2 I think in some cases site specific is a
3 misnomer because we are not after all dealing with a site,
4 unless you are willing to stretch the definition of the
5 term site to include something like 900,000 acres of the
6 outer continental shelf and something in excess of 20 million
7 acres onshore.

8 As a result of this, the BLM in my opinion had
9 a very tough job ahead of it in compiling this document,
10 because they were asked to produce a site specific document
11 that covered a very extremely large portion of the eastern
12 part of the country, and responded to that task. I think
13 they did a creditable job and a reasonable job.

14 Q Have you reviewed the Programmatic EIS
15 treatment of the subject of onshore impact?

16 A Yes, sir, again I reviewed the draft of that
17 document. I don't recall the exact dates, but it was some
18 time preceding the hearings that were held in Trenton, New
19 Jersey early in 1975, which I attended. I also had -- had
20 an opportunity to recently review it again.

21 Q And what pages of the Programmatic have you
22 focused on?

23 A Well, again we are talking about the sections
24 that deal specifically with one type or another of onshore
25 impact. In this case most of the material is contained in

onshore impact?

A Again, I think that the treatment was adequate, but again I want to reinforce my remarks by saying the commission there was even more broad than the one in compiling the site specific EIS, and in addition to discussing impacts that could be anticipated offshore the Atlantic coast the Programmatic document also has to consider parts of the Gulf of Mexico and Alaska, as well. So in the sense that the geographical coverage was greatly expanded, the document was much more general, but still suited its purpose.

Q Dr. Weastrom, in your opinion does the site specific EIS provide to a decision-maker a reasonable and adequate appreciation of the onshore effects which might result from the proposed sale 40?

A Yes, sir, I believe it does.

Q And with respect to the Programmatic do you believe that it provides a decision-maker a reasonable and adequate indication of the onshore effects of the proposed sale?

A Yes, sir, again to the extent that it's a much more general document I think it serves its purpose adequately.

Q You also reviewed the BLM technical paper called "Economic Study of the Possible Impacts of the Baltimore Canyon Sale" that's been referred to here as Technical

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Wenstrom-direct

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Paper No. 17

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A Yes, sir, I have.

4

Q Please give us your impression concerning that document.

5

6

A Again I would like to qualify my -- my

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impression of that document slightly by admitting to the

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fact that I am not a trained economist nor am I a trained

9

modeler, and the content of that paper is of course an

10

economic model. However, I did note in reading through the

11

introductory material of that volume that the model has

12

apparently been well received by economic -- by other economic

13

modelers. Of course, we are talking about the Harris model.

14

It was received by Dr. Harris of the University of Maryland.

15

It's been in operation for several years, and it's also been

16

utilized for similar applications but in different parts of

17

the country and in connection with different programs.

18

I have also reviewed in that document most

19

heavily the input assumptions that were made in utilizing

20

the model and also the results of the model. I find both

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the assumptions made up front as well as the results to be

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reasonable, and therefore to the extent that I can't analyze

23

the model itself I am satisfied that's also -- it also serves

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its purpose.

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Q Dr. Wenstrom, have you at my request reviewed

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A Okay, these are notes, these are parts of my notes that you have already -- that you have already had marked.

Q Doctor, is it your opinion then that the Sale 40 EIS adequately treats the question of side effects?

A Yes, I believe it does. I believe it does, because the results that -- that accrued as a result of our study are very similar to the results that accrued as a result of BLM's study, and that I can agree with the reasonableness of both BLM's approach as well as their findings.

Q Dr. Wenstrom, Dr. Mitchell testified that as soon as the strike occurs that people begin to decide precisely where they are going to bring oil ashore and how and what facilities will be needed on shore to accommodate the oil. Do you regard this as a correct statement?

A No I don't, I believe Dr. Mitchell has a misconception of -- of exactly how fast this development program is going to occur and how fast people, decision-makers, are going to be required to make decisions.

And again in order to illustrate that I -- I would like to rely on my own experience and my own understanding about what's likely to happen on the OCS in terms of the timing of these various types of activities.

Wenstrom-direct

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2 Again I want to refer to BLM's document, the
3 draft environmental impact statement, and state that there
4 is some information in there on the timing of these
5 various activities on the outer continental shelf. And
6 again I will refer to some specific pages.

7 For example on page 222 BLM states that the
8 peak of exploratory -

9 MR. KAUFMAN: Quoting what, do you know?

10 THE WITNESS: 222. This is all the same volume.

11 MR. KAUFMAN: This is the draft?

12 THE WITNESS: No, all the same volume, volume
13 2 of four. Page 222.

14 BLM states that "The peak of exploratory
15 drilling will occur within the first five years after
16 the lease sale, but will likely continue for ten or
17 fifteen years."

18 This is a -- essentially identical to an
19 assumption we made independently in conducting the
20 mid-Atlantic regional study, where we stated the same
21 thing but further stated that exploratory drilling
22 would likely continue in the area throughout the
23 productive life of the region, rather than simply for
24 what I believe to be a curtailed period of ten or
25 fifteen years.

1
2 Secondly BLM stated on page 226 that development
3 drilling is likely to be completed by 1979. In a
4 similar vein our assumption was that it would require
5 at least one year and possibly two years of exploratory
6 drilling before enough exploratory-type information
7 is available to justify a decision to install a
8 platform offshore.

9 Consequently if the decision to install a
10 platform was not made until after at least a year of
11 exploratory drilling, given a lead time involved in
12 platform ordering, construction and delivery from
13 what's likely to be a fabrication facility in the
14 south to the mid-Atlantic, you would have installation
15 of that platform no sooner than approximately 3 to
16 4 years later. Consequently development drillings
17 would not be able to commence until something like 4
18 to 5 years following the first lease sale.

19 Further, because of proposed OCS orders and
20 other regulatory rules it's been assumed that
21 development drilling on an individual platform will
22 take at least two years to be completed, and that
23 production will not begin from a platform until the
24 entire development drilling program on that platform
25 is finished.

Wenstrom-direct

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2 Consequently you are talking about two more
3 years in the process before production from the
4 platform can actually commence.

5 If you add up all those one and two year
6 periods, what you have is -- is a situation where
7 according to the assumptions that we made in our
8 understanding our production is actually not going to
9 commence until something like the eighth year following
10 the lease sale. And I believe the figures from five
11 to eight years have been reported here before by
12 other people testifying as a reasonable guestimate
13 as to the amount of time it's going to take to get
14 this program underway.

15 The reason I mention this is to point out again
16 back to Dr. Mitchell's concern that things are happening
17 rapidly and that things happen immediately after the
18 first strike, when in fact they happen at much longer
19 periods, maybe in terms of years, after these various
20 activities occur.

21 THE COURT: Would you continue this testimony?
22 I'm afraid we are going to have to break now. Thank
23 you very much.

24 I'm afraid you are going to have to come back
25 tomorrow at 10:00 o'clock. You can step down if you'd

5 1
2 disastrous -- and I think the word disastrous is a direct
3 quote from page 277 of the environmental impact statement --
4 environmental effects.

5 Q Dr. Wenstrom, with respect to the discussion of
6 the onshore pipeline land use required, Dr. Mitchell testified
7 that approximately 1800 acres will be needed for such pipe-
8 lines in the event oil is found in the Atlantic. Do you
9 agree?

10 A No, sir, I don't agree. I can neither agree
11 nor disagree with Dr. Mitchell's contention that 1800 acres
12 will be required, based on my review of the environmental
13 impact statement.

14 The figure 1800 acres is derived in my opinion
15 from some data that's presented in technical paper No. 1,
16 and not from any contentions or statements that are made by
17 BLM in their environmental impact statement.

18 The reason for that is obvious, and I think
19 it's reasonable, and that is that BLM states very clearly,
20 again in the environmental impact statement, that it's
21 impossible at this particular stage in the game to derive
22 such figure. And that stems directly from the fact that in
23 order to compute acreage required on the land for pipeline
24 rights-of-way, one has to know exactly where the pipeline
25 landfalls are going to be and then compute a corridor or at

1 least plot a corridor in those points where the refinery or
2 distribution site ultimately ends up to be.

3
4 BLM took the same approach that I did in my
5 study and suggested that it's impossible at this time to
6 quantify that type of information, simply because landfall
7 locations, and indeed offshore locations of production have
8 such a high degree of uncertainty attached to them;
9 consequently, Dr. Mitchell's estimate or guesstimate of
10 1800 acres is simply a guess. It's as good as yours or mine
11 or anyone else's.

12 Q Now, Dr. Mitchell testified that the EIS is
13 misleading as to the coastal site of gas processing plants.
14 Do you agree with that?

15 A Again I think that that particular topic is
16 adequately covered in the environmental impact statement,
17 and in addition that Dr. Mitchell has given somewhat of a
18 misconception concerning the necessity of locating these
19 facilities in the coastal zone. I think that conclusion
20 results from a couple of different issues, the first of
21 which is this business about the coastal zone itself.

22 I think what we are actually talking about in
23 terms of the adverse reaction to locating gas processing
24 plants in this area is not indeed the coastal zone; what we
25 are talking about is the wetlands zone. And in the North

1
2 estimate, I conclude that's a reasonable guess.

3 And I'd like to point out again that it is
4 essentially a guess, because until we know more about what's
5 happening offshore, what happens onshore simply follows from
6 some assumptions and some facility distributions that you
7 care to make.

8 Q Doctor, does the EIS contain a discussion of
9 the possible economic impact caused by beaching oil?

10 A Again my answer is yes.

11 Q In your opinion, is this treatment an adequate
12 one?

13 A Yes, sir, it is. I believe Dr. Mitchell's
14 contention was that the economic aspects were not treated in
15 a quantitative enough sense. Again I refer to an answer
16 that I gave in response to one of your questions yesterday,
17 in that the scope of this -- the entire environmental impact
18 statement is not a site specific statement in my definition
19 of the word site specific. It's a regional statement that
20 covers a very broad area.

21 Consequently, BLM in developing the draft has
22 given a very strong and qualitative description of economic
23 impacts that could occur were the oil to be beached in the
24 Mid-Atlantic that I think indeed satisfies the purpose for
25 which it was written.

Wenstrom-direct

2420

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2 THE COURT: Well, excuse me. It is site
3 specific in that it suggests four oil corridors, doesn't
4 it?

5 THE WITNESS: No, sir, I believe the suggestion
6 of four corridors for oil -- and this goes back again
7 to the question of 1800 acres, as suggested in
8 Technical Paper No. 1 -- is an assumption that they
9 used in formulating the economic model.

10 THE COURT: There is no reference to four oil
11 corridors in the final environmental statement?

12 THE WITNESS: I am just trying to think.
13 To my knowledge no, sir, there isn't.

14 THE COURT: There is no assumption that oil
15 will be piped in?

16 THE WITNESS: Oh, yes, sir, there definitely is.
17 In fact, there is an assumption that -- that almost
18 all of the oil that's produced offshore will be
19 piped in, because to the best of their ability they
20 are going to try not to utilize tankers and barges to
21 bring this oil ashore.

22 THE COURT: Isn't there an assumption that it
23 will be piped into New Jersey, which is the closest
24 offshore point?

25 THE WITNESS: No, I don't think that's an

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Wenstrom-direct

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1
2 assumption. I think that's stated in the form of an
3 example, that it's quite likely that oil may be pumped
4 ashore into New Jersey.

5 Similarly, it's likely that oil might come
6 ashore in Maryland or Delaware. That's the area we
7 are talking about. It has to come to shore some place,
8 and so you could estimate, you could guess --

9 THE COURT: Isn't it more economic to run your
10 pipelines shorter distances?

11 THE WITNESS: In terms of the transportation,
12 economics of oil, yes, indeed, that's correct, but --

13 THE COURT: Where would you suggest that the
14 pipelines, assuming the large end of the strike, be
15 landed?

16 THE WITNESS: I would -- I would not suggest
17 at this particular time a specific location. I would
18 suggest that the selection of those sites has to be
19 made on -- on the basis of criteria that are not
20 solely economic. I would suggest that -- that
21 environmental considerations ought to be brought to
22 bear on that selection process.

23 THE COURT: Such as what?

24 THE WITNESS: Such as the compatibility of a
25 specific area along the beachhead to -- with the --

1
2 with the pipeline construction effort. I don't necessarily
3 agree with the fact that every spot on the beach is
4 -- is suitable for a pipeline landfall, and I -- I don't
5 think economics ought to be the sole determinant in that
6 situation.

7 THE COURT: Well, are you aware of the fact
8 that the states are supposed to participate in the
9 decision with respect to where these pipelines ought
10 to be landed?

11 THE WITNESS: Yes, sir, and I think that's
12 entirely correct.

13 THE COURT: Supposing New Jersey and Maryland
14 decide no pipeline should be landed?

15 THE WITNESS: Then I suppose New Jersey and
16 Maryland and the offshore production industry have a
17 problem.

18 But I think that that would be an entirely
19 unrealistic and in fact an extreme position to take,
20 because I don't think pipeline landfalls are
21 incompatible with every square mile of -- of the
22 ocean front of any of those states.

23 THE COURT: Well, that's a state decision,
24 isn't it, now?

25 THE WITNESS: I would hope that it's a state

1 decision, that the states would have the authority to
2
3 exercise that kind of control over their own -- their
4 own beachfront, yes, sir.

5 THE COURT: So if they decide no landing in
6 any place that's economically feasible there is a
7 problem, isn't there?

8 THE WITNESS: Yes, sir, but that -- that kind
9 of a decision is not solely an economic -- or an
10 environmental decision, in my estimation. It's partly
11 a political decision.

12 THE COURT: Yes, but it's a political decision
13 by the states, isn't it?

14 THE WITNESS: Yes, sir, it is. And it should
15 be made, that kind of a decision should be made by the
16 states. They have to take a -- a position in my view
17 on that -- on that very decision.

18 Q Just one final question, Dr. Wenstrom:
19 Dr. Mitchell testified that the area included within BLM's
20 study is larger than the area which will receive actual
21 impacts, and that this tends to make the region sufficiently
22 large so that onshore impact would appear to disappear in
23 this large volume of people. Do you regard that as a valid
24 criticism?

25 A Excuse me. No, I don't, and again it goes back

1 to my contention that something like ten to thirty million
2 acres onshore and 900,000 acres offshore is not necessarily
3 a site. It's a region. And I think what we are talking
4 about -- is BLM's analysis, that shows very clearly that
5 certain things happen on a regional scale; other things happen
6 on a very localized or say a county basis type of scale.
7

8 What happens on a regional scale is that you
9 are superimposing a very small program on a very large area
10 containing a very highly industrialized system, with a lot
11 of people in it, basically, and so the changes in your
12 parameters that are reported, for example, in the environmental
13 impact statement are very, are very small changes.

14 BLM reports, for example, as a result of their
15 analysis in Technical Paper No. 1 that most of the parameters
16 which they have examined change over the base case less than
17 one per cent. Well, except for three areas which they list
18 as construction, balance of payments and private industrial
19 development, which change in the area of one to three per cent.

20 I think that's not because of any confusion or
21 attempt to delude people and hide things in a large area;
22 it's simply because the area is indeed very large and the
23 changes are very small.

24 MR. ST. JOHN: No further questions.

25 THE COURT: Any further defense questions?

1059-
1084A

Wenstrom-direct/Hyman

2425

1
2 DIRECT EXAMINATION

3 BY MR. HYMAN:

4 Q Well, Doctor, doesn't the statement talk about
5 pipelines providing they are feasible? It talks about
6 economic feasibility and technical feasibility?

7 A Yes, sir, I think you have to look at the
8 question of feasibility from at least three different
9 aspects.

10 Q Okay. Well, if the state along the coast
11 refused to allow pipelines to go through their limit of the
12 continental shelf, the three-mile limit, or onshore, are
13 there other alternatives available to oil companies to bring
14 that oil ashore?

15 A Well, when you come right down to it there are
16 only two means of transporting oil from offshore to onshore:
17 pipelines; the second to utilize some type of vessel, either
18 a barge or a tanker. Not using pipelines of course would
19 require the oil industry to a greater degree to rely on
20 tanker or barge traffic.

21 Q That type of technology is presently available
22 to us; is that correct?

23 A Yes, sir. In fact, the existing ports along
24 the East Coast have an extremely high volume measured in
25 terms of tons of crude petroleum traffic today.

1
2 Q And isn't it a fact that most of that crude
3 petroleum traffic is tanked in from foreign countries to
4 refineries in the northeast corridor?

5 A Yes, sir, I believe that is a fact. I believe
6 the figures are something like 85 per cent of the petroleum
7 allocation in petroleum administration district 1, which
8 covers the area, is from foreign sources.

9 Q And if there is no net increase in the northeast
10 area of demand for refined petroleum because of various
11 measures, conservation being one, price, and so forth and so
12 on, and if there is production offshore and pipelines are
13 not allowed by the states, and if tankers are used to bring
14 it onshore, would there be a replacement barrel for barrel
15 of presently imported foreign oil by OCS oil?

16 A I agree with that, yes.

17 Q And the environmental impacts would not change;
18 is that correct, from what they are today to what they would
19 be, if there was a barrel for barrel replacement?

20 A Yes, sir, that's correct. There are --

21 Q They will still be using tankers; is that
22 correct?

23 A Correct.

24 THE COURT: Excuse me. You just told us a
25 moment ago that if there are more resources available

1
2 locally there may be an expansion of the use of oil
3 in this area and an expansion of plants, and that
4 there was a shortage of oil available for the plants,
5 didn't you?

6 THE WITNESS: No, sir, I did not. In fact, I
7 wanted to make exactly the opposite point, that the
8 producers have little control over -- over the demand
9 situation. The demand is determined by --

10 THE COURT: Didn't you say that some of the
11 plants weren't operating at capacity because there
12 wasn't sufficient supply?

13 THE WITNESS: Yes, sir, I said that both in
14 terms of refineries and -- and associated facilities.

15 THE COURT: And didn't you suggest that if
16 there were a greater supply there would be more
17 petrochemical activity?

18 THE WITNESS: BLM suggests that, yes, sir.

19 THE COURT: Well, didn't you say you agreed?

20 THE WITNESS: Yes, I agree with that, that's --

21 THE COURT: Now, isn't that inconsistent for
22 you two minutes later to say that there is going to
23 be a barrel-for-barrel substitution and no increase
24 if there are substantial increases in local supplies?

25 MR. HYMAN: Your Honor --

Wenstrom-direct/Hyman

2428

1
2 THE COURT: Excuse me. I'd like to hear the
3 witness.

4 THE WITNESS: No, I think the point is that a
5 barrel-for-barrel substitution will not meet -- if
6 you look at the figures in what refinery capacity is,
7 for example, a barrel-for-barrel substitution will
8 not come up to the level of existing refinery capacity.

9 THE COURT: Doesn't that imply that if there
10 is a large strike at the costs that have been
11 projected off the Atlantic Coast that refinery
12 activity will increase?

13 THE WITNESS: No, sir, not if there is a
14 barrel-for-barrel substitution of presently-imported --

15 THE COURT: Well, why should there be a barrel-
16 for-barrel substitution if there is a larger supply
17 at lower cost?

18 THE WITNESS: Because my understanding of the
19 entire concept of the accelerated offshore leasing
20 program is that it's a part of what's been called
21 Project Independence, and one of the goals of
22 Project Independence is energy independence, which
23 means substituting the domestically produced energy
24 for energy which we presently need to import from
25 overseas sources.

1
2 And so to the extent possible the intent is to
3 replace foreign imports with domestic production, but
4 domestic production --

5 THE COURT: Excuse me. I don't understand your
6 reasoning. Supposing a million barrels come in off
7 this offshore strike; do you mean that the Government
8 is going to say you can't buy a million barrels from
9 Iran?

10 THE WITNESS: No, I don't -- I don't think the
11 Government can say that.

12 THE COURT: Well, it could, but are you assuming
13 that it will?

14 THE WITNESS: No.

15 THE COURT: I don't understand why you assume
16 that it's going to be a barrel-for-barrel replacement
17 if normal economic forces operate.

18 THE WITNESS: I'm not sure -- I don't under-
19 stand your question.

20 THE COURT: If you have cheaper oil available
21 here why should they stop importing other oil?
22 Shouldn't they just add to the amount of oil available
23 for refining?

24 THE WITNESS: Well, if they need to add to the
25 amount available for refining because of the demand,

Wenstrom-direct/Hyman

2430

1
2 then there likely will not be. But offshore oil --

3 THE COURT: Excuse me. Didn't you say a
4 moment ago that the thing that was holding down
5 refining was the lack of supply?

6 THE WITNESS: Yes, sir, that's correct. If
7 you look at the data that shows clearly --

8 THE COURT: Excuse me --

9 THE WITNESS: (Continuing) -- that refineries
10 have been closed.

11 THE COURT: Excuse me.

12 THE WITNESS: Yes, sir.

13 THE COURT: Now we are looking at supply, and
14 if you increase supply at a lower cost shouldn't you
15 increase refinery activity?

16 THE WITNESS: Well, yes.

17 THE COURT: If you increase refinery activity
18 don't you increase the amount of oil coming in
19 across the shore, if most of it is going to have to
20 come in across the shore from tankers or otherwise?

21 THE WITNESS: Well, your existing refineries
22 -- you are increasing refinery activity at refineries
23 that are already existent and which are under-
24 utilized at the present time. Refineries have been
25 closed for lack of supply.

1
2 THE COURT: Excuse me. I wonder if you could
3 listen to my question --

4 THE WITNESS: I don't understand your question.

5 THE COURT: (Continuing) -- and try to answer.
6 If you increase the amount of activity in
7 these refineries and the oil has to come from abroad
8 or from the offshore wells by tanker, will you not
9 necessarily increase the amount of tanker activity?

10 THE WITNESS: Yes, if the oil -- if all the
11 oil needs to be brought in by tanker, that's correct.

12 THE COURT: Well, that was exactly what the
13 question was, and you said a moment ago, as I under-
14 stood the answer, that it would not increase, that
15 there would be a barrel-for-barrel substitution.

16 MR. HYMAN: Your Honor --

17 THE COURT: Now excuse me.

18 MR. HYMAN: I --

19 THE COURT: Excuse me.

20 I'd like to know from you whether if there are
21 no pipelines, assuming that there is a large strike at
22 lower cost, you envisage greater tanker activity
23 bringing oil in for the refineries presently available
24 or to be established?

25 THE WITNESS: Yes, I do.

19

1

Wenstrom-cross

2

A 2.4.

3

Q All right. This is talking about a case of 2.6,

4

right?

5

A I will agree with that.

6

Q That is pretty close.

7

A I am surprised it's that close, but I agree it's

8

close.

9

Q All right. Now, you have both talked about

10

8 plants; is that correct?

11

A Yes.

12

Q Now, I am a little confused by the size of

13

these plants. You said that each of these gas processing

14

plants take up 75 acres, didn't you, on Page 26?

15

A Yes sir.

16

Q Okay. As a matter of fact, again, on Page 60,

17

you discussed that? The bottom of the page. Did you not?

18

Will you take a look at it?

19

A What page?

20

Q Page 60.

21

A Yes sir.

22

Q The sentence says, "As a matter of fact, gas

23

processing plants, for example, requires about 75 acres of

24

land wherever it is."

25

A Correct.

20 1

2

Q Okay.

3

A I mean that's the quotation. Yes.

4

5

Q That's pretty well known in the industry, isn't it?

6

7

A Yes, I believe so. Because that's where I got the information from.

8

9

10

11

Q And anyone who is asked a question about how big a gas processing plant will be from anybody who has information is going to get back an answer that it's 75 acres, right?

12

13

14

A I don't know. It depends on who you ask. But my experience was that the person that I asked gave me that answer.

15

16

Q And the United States Geology Service, the USGS, could have found that out?

17

A I assume so.

18

19

Q And the Department of Interior could have found that out?

20

A I assume so.

21

22

Q All right. Now, if you were going to have 8 of these plants, you were going to need 600 acres?

23

A Yes.

24

Q That's the number you put in for land use?

25

A Right.

Wenstrom-cross

2453

1
2 Q Okay. And you again repeated 8 plants on Page
3 61, didn't you?

4 A On Page 61?

5 Q Yes. Right.

6 A No, I don't see that.

7 Q This total, two-thirds will be invested in the
8 8 gas processing plants anticipated?

9 A We are not talking about acres. No.

10 Q I am talking about acres. But you are talking
11 about 8 gas processing plants?

12 A Yes.

13 Q There's no doubt in your mind there are going
14 to be 8 of them using 600 acres?

15 A Under the assumptions that are up front on this
16 report. There is nothing in our minds that 8 gas processing
17 plants were the logical conclusion.

18 Q All right. You testified yesterday about the
19 chart on Page 280 of the impact statement, Volume 2?

20 A Yes, I did.

21 (Continued next page.)
22
23
24
25

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Wenstrom-cross-Kaufman

2454

3aml

2 BY MR. KAUFMAN:

3 Q And you testified that Chart 3, Roman III-33,
4 had adequate figures with respect to on-shore need? Did you
5 testify to that?

6 A Yes.

7 Q And you considered it adequate?

8 A Yes, adequate and reasonable.

9 Q In your expert opinion it's adequate?

10 A And reasonable.

11 Q And reasonable. Okay, now, in that chart the
12 gas processing plants appear?

13 A Yes, sir, they do.

14 Q Okay, what is the figure that they have for a
15 gas processing plant?

16 A 20 acres.

17 Q That's about one-fourth of what it takes; right?

18 A It's about -- well, it's about one-fourth of --
19 about 75.

20 Q Right. But you said you know it's perfectly
21 obvious in this business -- right -- that it takes 75 acres?
22 Didn't you? You checked that out with the industry?

23 A I don't think I said that it was perfectly
24 obvious, I said the information we had suggested that 75
25 acres were required.

Wentron-cross-Kaufman

2455

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Q Did you read Dr. Mitchell's testimony in this area?

A Yes I did read it.

Q He pointed out that it runs around that too, didn't he, that there are different ranges, sometimes a hundred, sometimes less, that he sees? Sometimes not 20?

A Well, sometimes much less, sometimes 20. No, I won't agree that it's sometimes not 20. It often is quoted as 20 acres.

Q But the number that you picked was 75?

A Right.

Q That's the number the industry picked; right?

A That's the number that the man that I asked in the industry gave me, and I had no reason to doubt him.

Q If you take 8 plants of 20 acres what do you get?

A 160 acres.

Q And if you take 8 plants at 75 acres, what do you get?

A 600 acres.

Q So you were off by 440 acres?

A Yes.

Q So it would not have been unreasonable for the impact statement at least to add 440 acres to that 645; right?

1

2

A No, I think it would have been unreasonable.

3

They wouldn't have added 440 acres on the basis of the data

4

they presented here. It would have been an unreasonable thing

5

for them to do. Adding 440 acres is not consistent with

6

their -- their information.

7

Q Their information is that they are going to take

8

20 acres?

9

A Yes sir.

10

Q But the industry information you have is much

11

more?

12

A Yes, that's correct.

13

Q And the information that Dr. Mitchell had is

14

much more?

15

A Yes.

16

Q And the information that the Department of the

17

Interior could have gotten from the industry from the same

18

sources you have is that it could have been that size; right?

19

A Yes, but other information they had access to

20

would suggest it's much less.

21

MR. LAFITTE: I would suggest, your Honor, that

22

the witness be permitted to complete his answers.

23

THE COURT: Yes.

24

THE WITNESS: I -- in fact in that response I

25

think I should point out in order to complete that

Wenstrom-cross-Kaufman

2457

1
2 answer that the Library of Congress study done for
3 Senator Murphy's committee also uses the figure of 20
4 acres for gas processing plants.

5 Q Where did they get it?

6 A I don't know where they got it.

7 Q Could they have gotten it from the API?

8 MR. HYMAN: Objection. Speculative.

9 Q Did you testify yesterday about Exhibit 19,
10 Technical Paper No. 1, the Harris Report?

11 A Yes sir.

12 Q You testified that while you were not an
13 economic expert you went over the assumptions and you assumed
14 that they were pretty good assumptions, right, or you
15 accept that they were pretty good assumptions; is that right,
16 sir?

17 A I accept that they are reasonable assumptions.
18 I'm not sure how good they are.

19 Q And actually the basis of the whole economic
20 analysis of the EIS is based on the Harris Report?

21 A No, I don't think --

22 Q Is that correct?

23 A I don't think that's essentially correct at all.

24 Q Doesn't it state that?

25 A No, there -- their analysis is based on an

1
2 analysis that's supplemented by examples from the Harris
3 model.

4 Q They don't say that their economic analysis
5 comes out of the Harris model and technical paper?

6 A I don't recall that they specifically state
7 that anywhere. They simply site the tehcnical paper number
8 1 at numerous places in the Environmental Impact Statement.

9 Q Okay. One of their assumptions is on Page 53.
10 Would you turn to it?

11 A Page 53?

12 Q Page 53, Number 18. And they say that there
13 are going to be 18 land -- excuse me, 4 land terminals, and
14 they give tentative locations --

15 A No.

16 Q -- is that right?

17 A I wouldn't use the word tentative. I'd use
18 the word hypothetical or illustrative locations.

19 Q But things on which they base their analysis
20 of what was going to happen in the economic analysis and the
21 impact analysis; right?

22 A Right.

23 Q Okay. Now, and those all four are in New Jersey?

24 A That's correct.

25 Q Now will you turn to Page 52 --

1

2

A Yes sir.

3

Q -- and look at hypothetical -- assumption number

4

7.

5

A Yes.

6

Q And that gives you 4 pipelines coming from

7

gathering places offshore, going through those terminals up

8

to the terminals at -- up -- which would be at the refineries,

9

is that correct?

10

A Yes, that's the substance of that assumption.

11

Yes sir.

12

Q All right, now, will you add up what the mileage

13

of those four pipelines is?

14

A 810 acres. Is that correct?

15

Q No, 810 miles.

16

A 810 miles.

17

Q 810 miles of pipeline, right? And that doesn't

18

count gathering pipeline, that's just the main pipeline; is

19

that right?

20

A Well, this is on-shore pipeline, I believe.

21

Q Look again and see.

22

A Okay. Okay, yes, this is a combination of

23

both on and offshore pipeline.

24

Q All right, now, I would direct your attention

25

please to Page 17 of Volume 1.

1

2

A Okay, I've got it.

3

Q I refer you to Item No. E, and what does it say

4

there?

5

A E is called "Miles of offshore pipeline."

6

Q Now, we have two numbers, don't we, we have --

7

A We have four numbers as a matter of fact.

8

Q We have the total pipeline number, and it's

9

810; right?

10

A Correct.

11

Q And we have the offshore pipeline, which is 570,

12

is that correct?

13

A Correct, yes.

14

Q Now, by subtracting offshore from total we can

15

come up with on-shore, can't we?

16

A Yes, presumably.

17

Q An estimate. What's that number?

18

A 240.

19

Q 240 miles of on-shore pipeline?

20

A Is that right?

21

Q That's correct. So far your mathematics is

22

very good.

23

A Thankyou.

24

Q Yes. And now we are up to 240 miles of on-shore

25

pipeline. Now --

Wenstrom-cross-Kaufman

2461

1
2 A I don't think we are up to any miles of on-
3 shore pipeline. What we are doing is taking somebody's
4 hypothesis --

5 Q Okay.

6 A -- and extending it.

7 Q Now I would refer you to Page 60 of your report,
8 Doctor, the bottom of the page?

9 A Yes sir.

10 Q Page 60 did I say? Down at the bottom of the
11 page, is this a statement that appears:

12 "It is possible to note however that construction
13 of buried pipelines within a nominal right-of-way
14 75 feet in width temporarily disturbs only 9 acres of
15 land per mile."

16 A That's a direct quote, yes.

17 Q So that it's your concept that a nominal right-
18 of-way for a pipeline is going to be 75 feet?

19 A It's an assumption built into this report, that's
20 correct. That's not always true.

21 Q Nominal is your word, isn't it?

22 A Yes, right.

23 Q Now, will you multiply for me, please, 9 acres
24 a mile times 240 miles?

25 A If somebody had a pocket calculator this ..

1

2

show where the tracks are. It shows where the refineries --

3

Q Look behind you.

4

5

6

7

A Yes. I would suggest, though, that from the southernmost of those tracks the -- the shortest distance on shore is not -- appears not to be in New Jersey, it appears to be through Delaware. I mean --

8

Q Take a good careful look.

9

10

A Well, I -- I think in order to confirm that we'd have to measure it, but it's --

11

12

Q Do you want to turn around and see if you can measure it?

13

THE COURT: Well, I don't think it's reasonable.

14

15

THE WITNESS: Well, I don't have any measuring equipment so it's a guess, but it's pretty close.

16

17

18

Q If you come on in Delaware, the refineries that everybody is talking about are in Gloucester, right, Gloucester County?

19

20

21

22

23

A Well, we are assuming of course that the pipeline is going to be built directly from a production platform to a refinery, without considering the possibility of utilization of either existing or -- or storage facilities constructed in the future.

24

Q We have to get it into a refinery, don't we?

25

A We have to get it in somewhere. It could just

Wenstrom-cross-Kaufman

2467

1
2 as easily be to a storage facility, crude oil terminal, of
3 which there are many along the coast possibly closer to the
4 offshore tracks than are the existing refineries.

5 Q Was that considered in the impact statement?

6 A Yes. Well, it was considered in the impact
7 statement because of the variables and the uncertainties
8 connected with this whole issue of pipelines, where they are
9 going to start from and where they have to end up. It's --
10 you're sticking yourself too far on a limb to even consider
11 it. I think they point that out very clearly.

12 Q At this point, Doctor, then you are unable to
13 come up with a shorter pipeline route?

14 A No, I didn't say that. I need some time to
15 work with the maps. I can't answer that question.

16 Q But at this point you can't come up with it?

17 A That's correct, I don't have the equipment here
18 to do it.

19 Q So that the shortest one so far that we have
20 seen is one that would take on your calculations 2160 acres,
21 is that right?

22 A The shortest one we've been talking about, yes,
23 but again we are talking about a hypothetical situation,
24 going into places I don't necessarily agree they are going to
25 go into.

1

2

necessarily occur.

3

4

Q Now, on page 110 of your report you said a multiplier for induced jobs of 1.8, isn't that correct?

5

6

A Yes sir, that's correct.

7

8

Q That means that the number of jobs that will be created as a result of jobs that are directly in this industry, there are 8 jobs for every 10 jobs in the industry?

9

10

11

12

13

A No, I believe we said that there are going to be 8 induced jobs for every 10 jobs. That would be a combination of the direct jobs and the indirect jobs. Indirect jobs are not necessarily a part of the petroleum and gas industry.

14

15

16

17

18

Q Okay, but that multiplier is 1.8?

A Yes, sir.

19

20

21

22

23

24

25

A Yes, we stated it was the multiplier with which we could agree, obviously, because we used . . .

Q Well, you went a little further than that, didn't you?

A Yes, in fact --

Q What you said is "The relatively lower multiplier appears to more accurately reflect the increment

MR. PICCIANO: I will be very brief, your Honor.

CROSS-EXAMINATION

BY MR. PICCIANO:

Q Mr. Wenstrom, I would like to clear up one point. You mentioned that the OCS Sale 40 or the -- well, the sale 40 itself, was a first step in the nationwide accelerated leasing program; isn't that correct?

A If I used the words first step, I used it incorrectly. It's obviously not the first step.

Q Do you know which other sales were held pursuant to the national accelerated leasing program already?

A Well, yes. Sales in both Alaska and California.

Q And sales in the Gulf of Mexico; isn't that true?

A I don't know if that is true or not?

Q All right. Now, would you agree that -- and I believe your testimony indicated that you would -- that pipeline construction of its very nature implies severe land use impacts of varying degrees, depending upon the location or the suitability of the location of the land sale?

A Yes.

Q Would you agree with that premise?

A Yes.

Q And would you also agree that a strike of the

1
2 upward limits, 1.4 billion barrels of oil as projected for
3 40, that there will certainly almost definitely be pipelines
4 to bring that oil ashore if a strike of that magnitude is
5 found.

6 A Again, the -- certainly. Yes. I would say
7 quite likely.

8 Q What is your opinion?

9 A Quite likely, is my opinion.

10 Q Would you also agree that the states which
11 were responsible and had the obligation of developing
12 coastal management plans, do you think they have the right
13 or they ought to know what the impact of pipeline corridors
14 are before they actually occur?

15 A Do I -- I don't understand your question.

16 MR. BRUCE: I think this is a legal
17 conclusion coming from this witness who is not --

18 MR. PICCIANO: No. I am asking him as someone
19 familiar with land impacts --

20 THE WITNESS: I don't understand your
21 question.

22 THE COURT: All right. That's enough.

23 Q Well, would you agree as a general premise
24 that the impact of pipeline corridors on shore, that it
25 would be good for the planners in terms of coastal zone

Wenstrom-cross/Picciano/redirect

management to have this information before it actually occurs?

A Yes.

Q As a planning premise, that is a good objective, isn't it?

A Yes.

Q And yet, you stated, do you not, that even to address the appropriate range of land use impact, high, low range in terms of acreage, that this is not necessary and it is not reasonable to include that in the final impact statement for sale 40? Wasn't that your testimony?

A Yes, that's correct.

MR. PICCIANO: I have no further questions.

THE COURT: Any redirect?

REDIRECT EXAMINATION

BY MR. HYMAN:

Q Doctor, would you please look at Vol. 2, page 231 of the final EIS?

A Page 231?

Q Yes.

A Yes, I have it.

Q Is there a discussion contained on that page -- on page -- I think it's 230. I don't have it marked. But it's concerning a platform company -- proposed platform company?

1107

JB:jk
4AM R2

Wenstrom-redirect

2509

1
2 Q Well, is it clear that there is going to be a
3 2000 acreage facility there?

4 A Yes.

5 Q And is it clear that if and when -- if it's
6 technically and economically feasible for pipeline -- that
7 land onshore would be used for pipelines?

8 A Yes.

9 Q Is that hidden in any way?

10 A No.

11 Q And is it reasonable to assume that since they
12 don't know where the strike is going to be, or if there is
13 going to be a strike, that to plan for every inch of the
14 coast for pipeline corridors would be fruitless; is that
15 correct?

16 A I agree with that, yes.

17 Q Now, do you know if proposed developers must
18 obtain an exploration plan permit before they explore?

19 A No, sir, I have no knowledge of a permit by
20 that exact name.

21 Q Do you know if they have to file an exploration
22 plan?

23 A Yes, sir.

24 Q And do you know if the states have any input
25 in that exploration plan?

Wenstrom-redirect

2510

2 1 A Yes, sir.

3 Q And would the exploration plan contain
4 information that planners along the coastal states may use?

5 A Yes.

6 Q In planning?

7 A Yes.

8 Q Now, of course, there would be no information
9 in an exploration plan regarding pipelines; is that correct?

10 A That's correct.

11 Q Why would that be so?

12 A Because pipelines are not a part of exploration.

13 Q All right.

14 Now, there is -- I think you testified on
15 direct and even on cross that there is a delay between
16 exploration and development; is that correct?

17 A No. That is essentially not correct.
18 Exploration is a prolonged period followed immediately by
19 development.

20 Q What is the time lag? Does the EIS discuss
21 that time lag?

22 THE COURT: We have gone through this.

23 MR. HYMAN: All right.

24 Q Now, before development can occur, doesn't
25 the companies have to develop a developmental plan for

Wanstrom-redirect

development purposes of the oil?

A Yes.

Q And at that time they have already got the strike; is that correct?

A Yes, sir.

Q And they have estimates of what is in the ground; is that correct?

A Yes, sir.

Q And then they could plan? And that's before the actual development; is that correct?

A Yes, sir.

Q They could plan at that time their proposed pipeline routes to onshore; is that correct?

A Yes.

Q And would that information be given to states prior to the development?

A Yes. Presumably it would.

Q Would there be enough time, physical time, from the time the planners -- the plan is filed with the states to the time of actual construction and on-line production, would there be enough time, in your opinion as a planner, for the states to plan out various areas that could comply with pipeline easements and pipeline corridors?

A I have to say yes, in my opinion, there would.

Wenstrom-re: rect

Although I don't know what the capability of the planning states -- the planning capability of the various states are, but in my opinion there would be sufficient time, yes, sir.

Q If they had the capability and they had money?

A Yes.

Q Would that happen?

A Yes.

Q Are you familiar with the coastal zone management amendments that were passed by Congress and signed by the President some time this month?

A I know that they exist, yes.

Q Do they provide funds for the onshore states, coastal states for this very purpose, for planning purposes?

A That's my understanding, yes.

Q Do they plan -- in addition to that, do they plan to provide funds for secondary impacts that might --

MR. KAUFMAN: Your Honor --

MR. PICCIANO: Your Honor, everyone of these question is leading. I have to object to every one of them.

MR. KAUFMAN: If the Court please, the witness testified --

THE COURT: I will sustain it.

MR. KAUFMAN: The witness testified he is not

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please.

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LOU PUGLIARESI , called as a witness,

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having been first duly sworn by the Clerk of the

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Court, testified as follows:

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DIRECT EXAMINATION

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BY MR. HYMAN:

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Q By whom are you employed?

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A United States Department of the Interior.

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Q Are you employed with an agency within the

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Department?

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A I work for the Office of Policy and Analysis,

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which is under the -- I report to the Assistant Secretary for

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Program Development and Budget. In fact, I report to the

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Director of Policy Analysis, which is an office within the

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Staff. We are Staff to the Secretary.

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Q And what function do you have in relationship

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to the PDOD's identified in this proceeding as Defendant's

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Exhibits in evidence 6 and 7?

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A Well, referring to the Programmatic PDOD and the

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PDOD on Sale 40, my function within the Department is

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development of some of the policy alternatives, sometimes

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supervision of the writing of the PDOD when that is done

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within the Bureau -- especially, the Bureau of Land

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Management, and putting together some basic analysis of the

Pugliaresi-direct

decision memoranda that go to the Secretary.

Q Are some of the analysis that are put together economic in nature?

A Yes. A considerable number of them are quite detailed economic analysis. It is often the case that the Secretary is being asked to weigh the net economic value of a project against the expected environmental hazards.

Q And can you tell us a little bit about your educational background?

A I have a B.A. in Economics from the University of California, Berkeley. I worked at the Ford Foundation Research Project in the University of Administration. I worked with -- at the Office of Analytical Studies at the University of California, Berkeley, under the instructions of Charles J. Hitch, who at that time was mostly dealing with problems associated with economics of education.

In the last two years I have been involved in putting together a lot of analyses having to do with energy leasing and development.

Q Are there any other members on that staff with an economic background?

A Yes. Quite a few.

Q Do they have input into the PDOD ?

A Sure. When I first arrived at the Interior,

Pugliaresi-direct

about two years and three or four months ago, Dr. Gaskins was there, and he's an acknowledged expert in most energy leasing and development systems. Dr. Bill Moffett was Director of the Policy Analysis. He is now the Director of the School Public Policy at Staff. So I would say that economic capabilities within the Staff was considerable and quite good.

Q Now, did you have occasion to read the testimony of Dr. Atkins, specifically on page 1482?

A Yes, sir, I did. I went over that.

Q Okay. Now, Dr. Atkins testified that according to the PDOD for Sale No. 40, based on estimates of 0.4 to 1.4 million of barrels of oil estimated on the outer continental shelf, and 2.6 to 9.4 for gas bonuses, and from 400 to 600 -- I guess he meant million -- and the royalties of 900 million to 3.3 billion, and if they got \$3 a barrel, and by the -- those are different. So I am putting them on the bottom on the same basis.

And he goes on to say that at \$9 a barrel if there were --

MR. ZEDROSSER: Could you give me the page?

MR. HYMAN: 1482.

Q At \$9 a barrel, and if there was 0.4 -- that's the lower estimate -- then the Treasury would obtain some-

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MR. ZEDROSSER: May I ask, your Honor, one, is this man being tendered as an expert, or what?

MR. HYMAN: He is a government employee who works with the PDOD. I am not tendering him as an expert, but I am tendering him to testify about the figures, how the Government arrived at the economics in the PDOD.

THE COURT: Is he a factual witness?

MR. HYMAN: As a factual witness. He has opinions because he was there and he worked with a lot of other people.

THE COURT: All right, I will take his testimony.

MR. ZEDROSSER: We would object to him testifying as an expert.

THE COURT: Well, I have to see. You will have to make specific objections.

He may testify now.

MR. PICCIANO: your Honor, I haven't heard yet, but I assume from the preliminary statement that the nature of the testimony will be in the neighborhood of one speaking as an expert. And he is now about to get into economics. And I don't believe that we have established any foundation that he is an expert on

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Pugliaresi-direct

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he wants.

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THE CLERK: One document received in evidence as Defendant's Exhibit GG.

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THE WITNESS: This is a simple graph. Along this line is time. Along this abscissa is dollars.

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Let me give you a rough idea of what happens on the outer continental shelf in the production of oil. Someone comes by in the first year and buys the lease. Okay. They know they are going to have to invest money in platform capital, all kinds of -- steel, pipeline, labor, administrative overhead. They have initial costs. They come right away after they begin to explore the lease. These costs tend to increase.

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This is strictly for illustrative purposes. But the costs -- probably fairly significantly once exploration has begun -- they have the platform -- the platforms are constructed -- then they tend to increase. But after the platform gets into place, they tend to drop down and the cost would drop very quickly once the figure cost has dropped.

THE COURT: Is that new fixed cost or total?

THE WITNESS: If you integrate this entire function, your Honor, that would be -- in other words,

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Pugliaresi-direct

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if you added up the dollars associated with this whole function, each one of these would represent -- it's just like this. If this is year 1 and this is ten dollars here, it's ten dollars in the first year. If this is twelve, this is twelve dollars in the second year. Those two add to the -- these would be integrated and --

THE COURT: How does the cost go down?

THE WITNESS: The platform is in. You have stopped spending. Now you have marginal costs, lifting costs, once you place all your equipment out there.

THE COURT: I don't understand. Are you talking about --

THE WITNESS: Well, let me --

THE COURT: Investments in each year of capital and --

THE WITNESS: Yes.

THE COURT: Are you talking about total capital investment?

THE WITNESS: I am talking about both. Each year.

THE COURT: I don't understand how you can put them both on the same diagram.

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2 why I believe Mr. Atkinson has overestimated the value, the
3 net value, of these leases, that the government is in fact
4 -- this rent is not accruing to the oil companies but in
5 fact is much smaller than Mr. Atkinson thinks.

6 First, remember that the oil revenues occur
7 way in the future, and if you are investing now the value of
8 that to you in the future is considerably less, and in fact
9 I have a couple of examples here.

10 Q Can you put an example on --

11 THE COURT: This is all very obvious to me,
12 I understand all this. I don't understand the nature
13 of the testimony, of why the witness is testifying.

14 THE WITNESS: Well --

15 THE COURT: It's perfectly clear to me that
16 when somebody puts up a half a billion dollars for a
17 future income you have the situation the witness
18 describes. Now, I don't understand why he is here.
19 What is he going to tell us?

20 MR. HYMAN: Well, that's the economics of the
21 PDOE.

22 THE COURT: But nobody -- I'm not interested,
23 really, in this. I'm not interested in whether the
24 government is getting a fair shake or not.

25 THE WITNESS: Okay, we can go on --

Pugliaresi-direct

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2 document that the witness is using? I believe it's
3 something other than --

4 THE COURT: No, because I'm not going to permit
5 his testimony.

6 What else is he going to say?

7 Q Well, who gets the bonus payments from the
8 leases?

9 THE COURT: We have -- the record is clear on
10 this. What else is the witness going to say that we
11 don't know already from the record before us?

12 MR. HYMAN: I have some questions concerning
13 the economics of --

14 THE COURT: I don't want his testimony.

15 MR. HYMAN: -- conservation.

16 THE COURT: He's not an expert on economics.

17 MR. HYMAN: Well, but he -- I understand that,
18 and I haven't offered him as an expert on economics,
19 but --

20 THE COURT: Well, he's acting like an expert
21 up to this point.

22 Q Did the PDOD discuss the alternative uses
23 concerned --

24 A Yes.

25 Q -- concerning --

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2 THE COURT: Excuse me. The PDOD is in
3 evidence. I don't need him to tell me what's in the
4 PDOD.

5 MR. HYMAN: Well, you allowed all the testimony
6 from other experts about conservation and about
7 market price and world price --

8 THE COURT: That's right.

9 MR. HYMAN: -- and production.

10 THE COURT: Why were experts. This man is not.

11 MR. HYMAN: He's somebody who put input into
12 the PDOD.

13 THE COURT: I have his PDOD before me. That's
14 the document.

15 Q Okay. Are you familiar with the document called
16 "Acceleration on the outer continental shelf technical paper,
17 Department of Interior, October 4, 1974"?

18 A Yes I am.

19 Q And do you know if this paper was distributed
20 to various agencies, state officials?

21 A I know that it was part of the OCS Governors'
22 Conference and that -- I am fairly sure the OCS Advisory
23 Board has a copy of that. Most of the members do at least.

24 MR. HYMAN: Mark it for identification.

25 THE CLERK: One document --

Pugliaresi-direct

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1 have just gone through.

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3 MR. LIKE: Your Honor, there is also the
4 Administrative Procedure Act, and I don't recall all
5 of the statutes which were cited in the Plaintiff's
6 complaint concerning different aspects of the
7 marine environment which the Secretary has responsibility
8 under, but I have listed each one of the statutes that
9 the Plaintiff relies upon.

10 THE COURT: In the complaint?

11 MR. LIKE: In the complaint, yes.

12 THE COURT: Including the Coastal Zone
13 Management Act and the --

14 MR. LIKE: I don't recall that specific one,
15 but there were a number of statutes.

16 THE COURT: 31 --

17 MR. LIKE: Sir?

18 THE COURT: 31 U.S. Code 483 is the listing.

19 MR. LIKE: I don't remember the numbers.

20 THE COURT: Well, give me a list of them at
21 some point during the day.

22 Which act are you now offering this witness on?

23 MR. HYMAN: On any of those acts, none. Only
24 the PDOD.

25 THE COURT: If you are not offering him with

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2 respect to a defense on a challenge under any of these
3 acts, then I don't want his testimony.

4 MR. HYMAN: But your Honor, your Honor allowed
5 all that testimony on -- on the PDOD, which is not
6 put together pursuant to any act or even a regulation.

7 THE COURT: The challenge was, as I understood
8 it, that the PDOD had to be considered under NEPA and
9 that it was considered by the Secretary as a kind of
10 a summary.

11 Is that the contention?

12 MR. ZEDROSSER: Your Honor, the contention is
13 that the document was proffered as a summary, and --

14 THE COURT: Under NEPA?

15 MR. ZEDROSSER: Yes, under NEPA generally.

16 THE COURT: All right, is that the purpose of
17 this witness, to show compliance with NEPA?

18 MR. HYMAN: No, your Honor, because --

19 THE COURT: Then I don't want him.

20 MR. HYMAN: But -- but are they contending that
21 the economics concerning the price of a barrel of oil
22 is an item that falls under NEPA, is that what this is
23 about?

24 THE COURT: They challenge it under 31 USC
25 Section 483(a), they now tell me. Are you offering

pugliaresi-direct

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2 this witness on that theory?

3 MR. HYMAN: They didn't -- no I'm not. I'm
4 offering --

5 THE COURT: All right.

6 MR. HYMAN: -- this witness in defense of the
7 PDODs and the economics contained in there. And if
8 that is not an issue in the case, I'll take him off
9 the stand.

10 THE COURT: I don't understand. He's not an
11 expert, is he?

12 MR. HYMAN: But he is the man who did the
13 everyday work with all the other people to put in the
14 economics, to crank it into the documents.

15 THE COURT: Well, so what?

16 MR. HYMAN: I offered to bring an expert in
17 but there was this big objection, and they wouldn't
18 let me bring the expert in.

19 THE COURT: Excuse me. I don't understand
20 what the relevancy is. I have his document before me.
21 I don't want him to defend his document. Either it
22 stands or it doesn't stand.

23 THE WITNESS: Your Honor, that's not true.

24 MR. HYMAN: But how could you understand? Your
25 Honor, if it's that complicated as they make it out to

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2 be --

3 THE COURT: the testimony he has proffered
4 thus far has been useless to me. It's been of no
5 significance to me. Now, I want to know what else
6 he has?

7 MR. HYMAN: He just has the defense of the PDOD
8 and the economics.

9 THE COURT: As a person I'm not interested in
10 him.

11 MR. HYMAN: But as the person who did the work.

12 THE COURT: I'm not interested in the author's
13 defense of the document. The document will defend
14 itself.

15 MR. HYMAN: Well, just one question:

16 Q Does the PDOD talk about the availability of
17 capital for investment in rigs?

18 THE COURT: Sustained. The document speaks
19 for itself. Under the best evidence rule all of this
20 is not proper.

21 MR. HYMAN: No further questions.

22 THE COURT: Thank you.

23 Step down, sir.

24 (Witness excused.)

25 THE COURT: Next witness?

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2 ROBERT F. EVANS , called as a witness,
3 having been first duly sworn, was examined and
4 testified as follows:

5 THE CLERK: State your name for the record,
6 please.

7 THE WITNESS: I so swear.

8 THE CLERK: Your name, please.

9 THE WITNESS: Robert F. Evans.

10 MR. JENSEN: May we mark this as --

11 THE CLERK: Government's Exhibit II, biograph-
12 ical sketch, marked in evidence.

13 (So marked.)

14 DIRECT EXAMINATION

15 BY MR. JENSEN:

16 Q Now, Mr. Evans, by whom are you employed?

17 A The Department of the Interior.

18 Q And are you employed by a subdivision within
19 that agency?

20 A Yes sir, the Geological Survey, which is a
21 bureau within the department.

22 Q And how long have you been employed with the
23 Geological Survey?

24 A A little over 20 years.

25 Q And what's your current position with that

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agency?

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A I'm the associate chief of the conservation division.

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Q And how long have you held that job?

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A A little over a year.

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Q And could you describe briefly what your job

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function is in that capacity?

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A As associate chief I help the chief of the division run the division. I do the management and the supervision of all the activities within the division.

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Q And what is the division responsible for?

13

A The division is responsible for the enforcement of the regulations of all leases issued under the Outer Continental Shelf Lands Act. The leases issued under the Mineral Leasing Act of 1920, which would include both oil and gas and leasable mining activities.

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Q And prior to -- withdrawn.

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How long have you been employed in this

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capacity?

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A A little over a year.

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Q And prior to that what was your job with the Geological Survey?

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A Prior to that time I was in the Gulf of Mexico

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as a conservation manager for that regional area. I was

Evans-direct

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2 promoted to that position from the area oil and gas super-
3 visor in the Gulf of Mexico, and prior to that time I was in
4 the -- a technical assistant to the oil and gas supervisor.

5 Q And how long were you employed in the Gulf of
6 Mexico area?

7 A A little over 11 years.

8 Q And during that period of time what was your
9 job responsibility?

10 A The -- most of my responsibilities involved
11 the enforcement of the regulations and the OCS orders on the
12 leasing activities for oil and gas in the Gulf of Mexico.
13 Some of the sulfur operations.

14 Q These would be activities on the outer
15 continental shelf in that area?

16 A Yes sir.

17 Q Now I show you a document entitled "Mineral
18 Resource Management of the Outer Continental Shelf."

19 Do you recognize this document?

20 A Yes sir.

21 Q Could you tell the Court what that document is?

22 A It's a document that's made up by several
23 members of my staff that was in that area that tells about
24 the resource evaluation and the producing activities and the
25 supervision of production on the OCS.

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Evans-direct

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BY MR. JENSEN:

Q Could you briefly describe some of the controls that are imposed through these regulations in an operating order?

A The type of requirement I would be thinking of would be in terms of the -- in the case of drilling equipment, you would have the control measures such as your mud casing and cementing design, and your blow out preventing equipment which is for the safety of the drilling of the well. But it also provides safety to the environment by keeping the well under control.

And another example would be in the production platform where you would have various high level controls on your various vessels which would automatically trigger the shut-off to prevent an accident occurring, and also prevent pollution in the waters.

Q Is it the responsibility of your office to inspect and supervise the operation to see that they comply with these controls?

A Yes sir. We provide inspections on a daily basis to the activities.

Q Now, are the operating orders and the regulations that you referred to -- are they changed or updated in any way?

A Well the regulations are not changed very often.

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2 But the OCS orders which implement the intent of the
3 regulations are constantly under review and updated to bring
4 them into compliance with the best technical provisions that
5 are available and to be up with the state of the yard.

6 Q and if these regulations of operating orders
7 are changed, will preexisting or prior leaseings be subject
8 to the new orders or new regulations?

9 A Yes. Insofar as they relate to the conserva-
10 tion of resources and the protection of the environment.
11 That is, provisions of the lease instrument itself.

12 Q And other than that qualification, is there any
13 final limitation of any kind on these new controls that may
14 be imposed upon lessees?

15 A Well, there is a practical limitation. You
16 wouldn't want to impose a change on a piece of equipment if
17 you -- if it resulted in shutting down your production. You
18 would have to get a trade off, an economic trade-off of what
19 was practicable to enforce on the lessee.

20 Q Is that the only limitation that you are aware
21 of, as far as the extent to which these new controls may be
22 imposed?

23 A Yes sir. That's about all I know of.

24 Q Now, in your twelve years of experience in the
25 Gulf area, were the operating orders ever changed in the

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fashion that you just suggested?

A Yes. Many times. That was one of the big efforts that took place right after the Santa Barbara incident in 1969. It was that the regulations -- the regulations were changed. And, therefore, the OCS orders had to be changed. And, in addition, we added several new OCS orders at the time which covered operations prior to that time that had not been covered by OCS orders. The older existing OCS orders were brought up to date. Quite a few technical changes were made in them which imposed additional requirements upon the operator.

Q Now, in addition to these controls that we have just described, does the geological survey or the Department of Interior have the authority to suspend the operation of a lessee in case of threatened environmental harm?

A Yes sir. They certainly do.

Q Are you aware of instances where such a suspension has in fact occurred?

A Not specifically as a result of OCS orders. There was a suspension in California by the Secretary under his authority.

Q That was in relation to the Santa Barbara blow-out?

Evans-direct

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A That was the Santa Barbara blow-out. Yes sir.

Q Would this suspension be one means of enforcing compliance with the OCS orders and regulations?

A Yes sir. That's a pretty strong compliance measure. You can shut down operations for safety reasons which are related to the protection of the personal property, the resources or for the environment. And any time you curtail production activities, that does seem to do the work.

Q Now, in addition to the operating orders, the regulations that you described, is there other regulations of lessee activity in the form of permits that have to be obtained?

A Just about proposed action the lessee takes. It requires a permit. This involves the -- even prior to the issuance of leases, it would involve the seeking of a permit for geophysical activities which will be conducted in an area prior to leasing. After leases are issued, just about everything that is conducted on the lease has to secure approval from the area of oil and gas supervisors.

Q This would include such items as the building of a platform and the laying of pipelines?

A Yes sir. Drilling of wells, laying of pipelines, direction of platforms and the production.

Q Now, in addition to those requirements, are the

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2 lessess required in any point in this process to submit plans
3 to the activities which they are proposing?

4 A Yes. They have to submit exploratory plans
5 prior to conducting operations on a lease. That is, in
6 addition to individual permits for each well that they plan
7 to drill.

8 Q And do you know whether these exploratory plans
9 are ever circulated to the public or to effected coastal
10 states for their input?

11 A Well, there is a specific requirement that the
12 be submitted to the Governors of the states for
13 consideration. However, the -- they don't include those
14 proprietary portions which are exempted under the Freedom of
15 Information Act. that's generally not of an area that would
16 be of interest to on-shore areas.

17 Q Are similar --

18 MR. KAUFMAN: Could we have the witness talk a
19 little louder, please.

20 THE COURT: Yes. It's hard to hear you.

21 THE WITNESS: Maybe the microphone isn't picking
22 me up. Can you hear me now.

23 MR. KAUFMAN: Yes.

24 Q And is a similar submission of plans required
25 before any development is allowed under the leases?

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2 A Yes. A similar plan which is referred to as a
3 development plan is submitted for approval. It also has to
4 be submitted to the offsetting states.

5 Q Now, in your experience, has the DEpartment of
6 Interior ever prepared a further environmental impact
7 statement or environmental assessment of these subsequent
8 steps in the development of OCS leases?

9 A We as a matter of course make up environmental
10 assessments on practically every activity that takes place on
11 the lease after a lease is issued. The determination is made
12 upon the nature of the findings of the assessments as to
13 whether you make up an impact statement or not. The assess-
14 ments are getting to be sort of a mini-impact statement at
15 this time. But there has been at least one action that I know
16 of which went to an impact statement.

17 Q Could you describe that? At owhat point in the
18 process was the impact statement prepared?

19 A I can't provide all the specific details of
20 it. It was -- a lot of this occurred prior to my going to
21 headquarters. But it related to the Santa Barbara Channel
22 off of California And the determination was made that there
23 should not be another platform erected after they prepared an
24 impact statement. That impact statement has been issued I
25 suppose by the -- six or eight months now.

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2 Q Was that because there were new concerns about
3 poss'ble environmental damage had surfaced subsequent to the
4 original lease?

5 A Yes, there was. There were leases that were
6 remaining there. And there was a need to do additional
7 studies and considerations for that. I don't believe there
8 has been any decision yet that has been made upon that
9 particular assessment.

10 Q Are you familiar with the lease stipulations and
11 operating orders with regard to the mid-Atlantic Sale No. 40?

12 A I am generally familiar with them, yes.

13 Q And do these stipulations and orders relate
14 in any way to environmental concerns?

15 A Yes. There are I would say at least two major
16 ones that are considered for environmental concern. One is
17 the -- I believe it's the first stipulation which has to do
18 with the cultural protection or the enforcement of the
19 antiquities act. The second one that I can think of is the
20 biological stipulations which refer to the protection of the
21 biological communities in the area.

22 THE COURT: Whenever you think it's appropriate
23 that we break for lunch --

24 MR. JENSEN: Well, we can break now. This
25 is a good point. I was going to change my line of

Evans-direct

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3 The final version after incorporation of
4 comments in it from that and -- as well as industry input --
5 were again discussed with the adjoining states prior to
6 finalization, and of course many of the comments were
7 incorporated into the final orders.

8 Q Well, were the orders themselves modified as
9 a result of this public comment process?

10 A Oh, yes, yes. That -- that was covered in --
11 in a general format in the Federal Register, as to the
12 comments, the reasons for incorporation or the reasons for --
13 for not accepting the suggestions.

14 Q Now, in addition to the OCS operating orders
15 that have already been adopted with respect to sale 40 are
16 there other proposed orders that you are aware of?

17 A Yes, the remaining suite of orders, with the
18 exception of order 10, are in the planning stage and are
19 actually being worked on -- in a draft form, but it's a
20 little premature to come out with those at this time because
21 they are all related to production, and it's one of those
22 things that you try and wait until you know the nature of
23 your production, if any, to see what the composition of your
24 production is, what safeguards you are going to have to take
25 related to it. So you want to delay as long as you can
until you have the best information you can to incorporate

Evans-direct

into the orders.

Q Well, will information obtained as a result of the exploratory activities be used and incorporated in these other orders?

A Yes, very much so. As well as reassessing the requirements under the existing orders for modification of them based upon the information we receive from the drilling.

Q And will these orders similarly be circulated for public comment?

A Yes, indeed.

Q And is it the intention of your agency to adopt these orders in some form prior to the commencement of any development in the OCS 40 area?

A Those remaining orders will be adopted in final form before we go on to production.

Q Now, in addition to these orders, is it conceivable that other orders will be generated from time to time with respect to the sale 40 area?

A Quite probably so. We have the --

MR. ZEDROSSER: Your Honor, I object to things that are speculative because it seems to me to be a clearly speculative question, getting a speculative answer.

THE COURT: I will permit it.

Evans-direct

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Q You answered "Quite probably so." Did you have anything more to add?

A Well, the Coastal Zone Management Act Amendments of 1976 placed some consistency requirements on agencies, and that will require some type of instruction format; whether it's in the form of an OCS order or not I'm not certain at this time, but it will require instructions for complying with that -- that particular act.

Q So the requirements of that Act may be implemented by further orders?

A Yes.

Q Now, based upon your twelve years of experience in the Gulf, was your experience there that additional OCS orders were promulgated after the first set of orders?

A Yes. For the reason that as you develop the understanding of the -- the nature of the geological province that you are working in you design orders to cover those aspects which are -- are broad in nature and which affect many operators or perhaps cross an area. And to prevent an administrative burden creeping up on you of treating everything by an individual letter to -- to an operator, and much correspondence, why, you develop an OCS order which is encompassing these areas.

Evans-direct

So any type of operation like this you will find that you have a gaining of knowledge, and the -- the need for easing administrative burdens and to provide guidance to your operators, so you develop additional orders to cover these aspects.

Q I believe you just testified that the orders were general in nature. Does the oil and gas supervisor for the area have additional discretionary authority to act under the orders to prevent environmental harm?

A Yes, the -- the supervisor has authority to modify any of the provisions of the OCS orders to provide more strict requirements based upon the nature of the problem associated with it. It could -- it could appear to be at times a relaxation of requirements, but in reality it is a strengthening of requirements.

The primary purpose of the retention of this is to be able to look on each activity on an individual basis and judge it on its engineering and technical information, and to provide the -- the best protection that you can. So there could be variations to the OCS order.

Q To return to the development plans for just a moment, do you require as part of the development plans submission that any information concerning reserves or environmental information that is acquired during the exploration

Evans-direct

phase be utilized in preparing those plans?

A If I understood that question, we require that the operators submit all the information they have acquired in judging the -- the development plan or exploratory plan or an individual drilling operation.

Q In your experience in the Gulf have you become familiar with the extent of oil and gas reserves remaining in the Gulf Coast area?

A Yes, I am familiar with that in a general sense. I -- I don't have the figures right -- right on the top of my head, but yes, I am familiar with it.

Q Well, could you give us your opinion concerning the availability of such resources?

MR. ZEDROSSER: Objection, your Honor. This witness was qualified as someone who has to do with operations and operating orders and that kind of requirement. He's now testifying on an entirely different subject, which is the difficult one of resource evaluation. He has not been qualified in that field.

THE COURT: Overruled.

THE WITNESS: The -- one of the -- one of the oil and gas supervisors under my jurisdiction in the Gulf of Mexico was in charge of, among other things,

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2 A Yes, sir, that's right.

3 Q Now, referring specifically to the operating
4 orders for Mid-Atlantic lease sale No. 40, do the operating
5 orders themselves in so many words require that the state of
6 the art or the best available technology or the best
7 technical provisions be employed? In so many words, do they
8 say that?

9 A Yes, sir, they -- they are minimum requirements
10 on the operators.

11 Q Well, perhaps you could then tell me as to
12 let's say operating order No. 7, because you mentioned that
13 one specifically, wherein that order it is stated that the
14 best technology must be used for clean-up, which is the
15 subject of that order, containment and clean-up of oil
16 spills.

17 A Well, there is one provision right at the
18 last of that order which is an annual contingency plan
19 assessment, which requires that any plan that they submit to
20 you being at least reviewed annually.

21 Q Maybe I haven't been as clear as I ought to
22 be. The question I am asking is whether there is anything
23 in operating order 7 that requires that those plans
24 include state of the art technology or best available
25 technology or anything like that?

Evans-cross/Zedrosser

15 1 A It does -- it doesn't specify in the order as
2 it is written that that is what is required. The -- the
3 general overall requirement that we have is that we are
4 continually revising and updating these orders to provide
5 the -- the best technical capability.
6

7 Now, in this process we are -- our visiting
8 operations on a daily basis to various parts of our -- our
9 offshore production facilities, and we have what you would
10 call a -- a technical exchange of information which occurs.
11 In other words, our -- our inspectors come across an
12 operation on a particular company's platform which is
13 innovative and new and something better. This is reported
14 back to us, and we have discussions with -- among ourselves,
15 we define what some of these new changes should be, then
16 we go through the procedure of -- of refining the OCS order
17 which covers the operating of this.

18 So I -- I -- I suppose that is maybe what you
19 are looking for.

20 Q Well, it is not exactly what I am looking for.
21 What I was looking for was something very simple. In other
22 words, you are not suggesting then that the operating orders
23 themselves require in so many words best available
24 technology; you aren't saying that, are you?

25 A No, what we have always tried to tell the

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operators is that these orders are minimum requirements.
Those are oral understandings.

Q But sir, you're not saying that the minimum
requirements in so many words require best technology, are
you?

A No.

Q You are simply saying that USGS does a good
job; is that what you're saying? Withdrawn.

When you say we have a requirement, you don't
mean that in terms of a written requirement, do you?

A I -- I guess -- I'm sorry, I'm not following.

Q You testified before that "We have a
requirement where we upgrade the technology dealing with a
particular item." You don't mean a written requirement that
so states?

A Oh, no.

Q And you are not claiming that there is such a
written requirement in the stipulations for lease sale 40
either, are you, the one that says in so many words, "You
shall have best available technology"?

A No, not in the stipulations, no. No, that's
a legal requirement on the lease, the stipulations.

Q The stipulations are? They don't include that
requirement?

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A No.

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Q This is just some kind of a policy you're talking about, but it's not set forth in writing?

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A Not -- not particularly, no.

6

Q I see. Now, you mentioned the inspections, did you not, and you have a particular requirement of inspections, is that right?

9

A Yes.

10

Q Now, you were supervisor at some high level of responsibility in the Gulf, weren't you, in the fiscal year '72?

13

A Yes, sir.

14

Q Are you aware that the Government Accounting Office on behalf of the Comptroller of the United States made an investigation of inspection procedures of USGS during that period of time?

18

A Yes, sir.

19

Q And are you aware then that the conclusion was that the Survey did not inspect structures as frequently as required by standards set by the region or by official Survey policy? Are you aware of that?

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A Yes, sir. Can I amplify on that, sir?

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MR. ZEDROSSER: I am sure the Judge will let you.

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THE COURT: Yes, you may.

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THE WITNESS: The requirements that we had were in our OCS orders that we made up, which required that we inspect our drilling structures and our producing platforms with certain frequencies, and we were not staffed at that time to accomplish what our intentions were for inspections. Therefore, we -- we couldn't inspect with the frequency that was specified in our orders.

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Q Well, isn't it fair to say that what the GAO found wasn't just a matter of frequency of inspection -- let me be specific, sir, and ask you: Didn't they also find that in some instances uninspected equipment was reported as inspected, items of non-compliance were not noted in the inspection reports, and that no inspection reports were prepared for certain types of OCS operations? Wasn't that among the criticisms of GAO at the time?

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A I don't recall that specifically. I assume that what you're reading is correct.

Q Well, I do want you to be specific. Is that a fair --

A Yes.

Q (Continuing) -- statement?

A That's correct. There was not a uniform

1 inspection and instructions formulated at that particular
2 time.
3

4 Q Well, sir, when somebody reports something as
5 inspected which was not inspected, that's not defective
6 instructions, is it?

7 A I -- as I recall, we took some exception to
8 what GAO reported in that particular document.

9 Q Now, you also testified, did you not, that the
10 suspension of operations was a strong compliance measure; is
11 that not your language, or pretty close to it?

12 A Yes, sir.

13 Q Now, are you aware that a 1972 U.S. lease
14 management study found that the threat of production losses
15 was insufficient to secure compliance and that such losses
16 did have an impact, but instead of increased compliance
17 industry's response led to decreasing the length of shut-ins
18 by stockpiling parts and making an effort to correct during
19 inspection? Are you familiar with that report? That was
20 during your tenure, was it not?

21 A Yes. I am not sure whether that's the same GAO
22 report or not.

23 Q No, I indicated it was a USGS report, sir.
24 Are you aware of that report?

25 A Yes, sir, yes.

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Your own department's report. And did it so

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indicate?

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A.

Yes, it did.

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(continued next page)

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Q Now let's go back for a second to the GAO report. Are you aware that that report concluded that "Since the inception of the lease program no leases had been cancelled" -- and I say parenthetically this relates in connection with oil spill prevention, not for other reasons -- "...and that fines had been levied only once in 1970 for failure to install required safety devices,"-- and that "to enforce its regulations the Survey has relied principally on written warnings, and in the Gulf Coast region sounding operations"?

A Yes, sir.

Q Do you recall that finding?

A Yes, sir.

Q And do you recall the finding that the Survey needed to strengthen its enforcement actions?

A Yes, sir.

MR. ZEDROSSER: I don't think I have anything further.

THE COURT: Any other Plaintiffs?

CROSS-EXAMINATION

BY MR. PICCIANO:

Q Mr. Evans, John Picciano is my name. I represent the County of Nassau in this action.

Mr. Evans, you alluded to in direct testimony the power to suspend a lease in the event of some kind of an

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Q What is your understanding approximately of the frequency of oil spills?

MR. JENSEN: Objection. Beyond the scope of the direct. He did not testify about oil spills or incidents in any area.

THE COURT: Overruled.

MR. PICCIANO: Your Honor, he stated --

THE COURT: Overruled.

Q Please answer.

A The frequency -- they are generally characterized as to the size of the spills. In the Gulf of Mexico there are approximately 250 to 300 a month.

Q 250 to 300 amonth?

A Yes sir.

Q Of what size?

A That's from -- oh, a gallon to perhaps as much as 10, 15 barrels.

Q What would you say generally are the cause of these spills?

A I would have to categorize the majority of them as being human error in the sense of doing something they shouldn't do or failing to maintain a piece of equipment.

Q And with respect to these 200 or 300 instances per month, what is the percentage of those that actually

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1 Well, I myself don't see the fair market
2 value as a problem, but it's arguable, and that seems
3 to me to be something you might want to consider.

4 The Coastal Zone Management Act is, it seems
5 to me, a troublesome matter. I have referred to it
6 a number of times. You already have preliminary
7 briefs on it.

8 In part, it's a chicken and egg problem, but
9 in part it's a serious problem with respect to what
10 Congress intended; that is, did they intend the
11 states and localities to get involved before the
12 decision was reached that was a no-return decision,
13 which as I understand it is the lease for exploration
14 and production decision, because after that with only
15 small limitations there is very little you can do to
16 prevent full production, as I understand the
17 testimony. On exploration there are little things
18 you can do to slow things up and modify, but
19 essentially once the lease goes forward economic and
20 technological forces take over, with minor chances
21 to modify those forces through various orders.

22 Now, there are two aspects of that. One is
23 the extent to which as a matter of Congressional
24 intention and statement the Secretary ought to hold
25 off until he does have some coastal management plans.

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2 Bearing on that I suppose are the speed with which
3 those plans are being formulated and the fact that
4 Congress was aware of the sequence of events and
5 could have, as it did in Alaska, either cut through
6 and say, "You can go ahead and lease," or "You
7 shouldn't go ahead and lease until they have had an
8 opportunity to plan."

9 The situation, so far as Congressional intent,
10 is fairly ambiguous.

11 There is a second aspect of it, however, and
12 that is the extent to which the coastal management
13 plans will affect the assumptions made by the Secretary,
14 and it's obvious from my questioning one of the
15 matters of concern to me was the use of tankers
16 against pipelines in a large strike situation.
17 Conceivably pipelines may be forbidden or so hinged
18 with restrictions that they won't be available.
19 Now, that seems to me possibly, at least arguably,
20 to so change the basic assumptions with respect to
21 the impact statements' evaluation of possible
22 environmental damage as to require a re-thinking by
23 the Secretary. Now, he might reach the same decision,
24 but scattered throughout these documents are references
25 to the desirability of using oil lines instead of
tankers. My recollection was that that was also true

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2 of the Programmatic impact statement, and also of the
3 PDOD.

4 My recollection is that it needs to be
5 refreshed on the Programmatic PDOD and the sale 40
6 PDOD. The point, as I recall, was made, and it was
7 striking to me when I first saw it, that the
8 environmental impact might be reduced if these strikes
9 offshore were large enough because tankers might
10 cause more spill than production offshore and piping
11 the material in.

12 It's not a serious problem with respect to gas
13 because, as the statements made clear, the gas is to
14 a large extent non-polluting even in case of a break.
15 It will burn off or be dispelled, although there may
16 be some hydrocarbons in the lines and some water in
17 the lines. But it's a serious problem as to the oil.

18 Now, then, with respect to NEPA, it's obvious
19 that has been very substantially tried here. Part of
20 the problem I think is to what extent a document that
21 is satisfactorily worked out from a scientific point
22 of view is necessary. That is, can the document
23 perhaps have some defects and even errors and yet in
24 general be sufficiently in compliance so that a
25 reasonable, non-specialized administrator can reach a

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2 MR. ZEDROSSER: All right. Well --

3 THE COURT: I would like, since you are a
4 representative of the State of New York, to know, for
5 example, that New York State has a Tidal Wetlands
6 Act that regulates where pipelines can go through and
7 what can be done with respect to on-shore use of the
8 estuaries and of the beaches and landing pipes and
9 other things.

10 MR. ZEDROSSER: And the Court obviously is
11 aware that we do have a Tidal Wetlands Act which is
12 being enforced rather vigorously.

13 THE COURT: You have Article 24 of the
14 Environmental Conservation Law. Is there now in
15 effect in New York a ban on any development in the
16 coastal area?

17 MR. ZEDROSSER: Well --

18 THE COURT: Not the coastal areas, but the
19 -- in the wetlands.

20 MR. ZEDROSSER: We are now in what is called
21 the moratorium period. Under the moratorium period,
22 unless you get a hardship permit, which is
23 obviously supposed to be granted only under limited
24 circumstances, you cannot alter the state of --
25 either a wetlands or an adjacent area thereto. The

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1 adjacent area has been defined by regulation. In
2 the process now are proposed permanent regulations
3 which would set forth what you may or may not do
4 on particular kinds of wetlands. And the wetlands
5 are broken down by type.

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7 THE COURT: Might that affect whether a
8 pipeline can run into New York?

9 MR. ZEDROSSER: It surely could. Because I
10 could think of a more obvious alternative, if you
11 will, in a wetlands.

12 THE COURT: And does Article 23 dealing with
13 minimal resources contain detailed definitions of
14 oil and pools and gas and make this a part of the
15 total scheme of regulations?

16 MR. ZEDROSSER: Your Honor, there is no
17 question but that the State of New York through its
18 Legislature has given strong recognition to the
19 importance of our coastal areas.

20 THE COURT: Is there, in your opinion, a
21 sufficient indication in the various impact
22 statements that the Secretary was aware of the fact
23 that he could not make these decisions without
24 getting in effect directly or indirectly the consent
25 of the State of New York to run pipelines through?

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22 statements that the Secretary was aware of the fact
23 that he could not make these decisions without
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25 of the State of New York to run pipelines through?

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2 MR. ZEDROSSER: Your Honor, I think there was
3 insufficient -- clearly an insufficient recognition
4 of this. And I think the point made by the Court in
5 -- during the hearing was a particularly acute one.
6 And that is, what would happen if pipelines are
7 simply prohibited? Let's take the easiest case.

8 THE COURT: Is that a possibility under New
9 York State law?

10 MR. ZEDROSSER: Yes.

11 THE COURT: Is that considered in the state-
12 ment adequately, in your opinion?

13 MR. ZEDROSSER: I do not think so, your Honor.

14 THE COURT: Is it your contention, repre-
15 senting the State of New York, that there haven't
16 been adequate considerations of the effect of the
17 various present statutes on the total program of the
18 federal government and its impact possibly on the
19 environment?

20 MR. ZEDROSSER: Yes, your Honor. I think
21 there has not been such consideration. I think the
22 general impression that a fair reader, including the
23 decision-maker, would get from reading those
24 documents is that the juggernaut will roll along.

25 THE COURT: Can anybody reading those

documents have an understanding of the complexity and the range of the State of New York statutes controlling this area.

MR. ZEDROSSER: Well, I don't think so. I think, for example, there is an awful lot going on in the -- just in the tidal wetlands area, for example, The regulations -- the permanent regulations now in process are going to be tough. As for the moratorium, obviously, that is tough. And this is being taken very seriously. Indeed, there were hearings throughout the state regarding these regulations. There was a lot to be known in there.

THE COURT: The hearing is over and these regulations as they affect Nassau -- and I will take judicial notice of that. It was in all of the newspapers.

MR. ZEDROSSER: Because our Bureau is involved in enforcing in the courts these particular regulations. And I can attest from my own experience that this is something that we are taking seriously.

THE COURT: Is this a lot of paperwork? A lot of statutory facade that we are dealing with or is New York serious about exercising its sound control over the three-mile seabed and the wetlands?

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MR. ZEDROSSER: Your Honor, there is no doubt that we are serious. There have been attacks on the statute. We are defending them. We have prevailed up until this time. The courts have upheld the statute. There has been a clear recognition by the Legislature, by us, for example, as an enforcers, and by the Department of Environmental Conservation and by the courts that this is something of significance to the State.

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THE COURT: This is, I take it, in your submission, a matter independent of the coastal zone management act since it depends upon the state's inherent sovereignty and has nothing to do with federal approval.

MR. ZEDROSSER: Absolutely. It doesn't depend on the approval of any -- of anything by the federal government.

THE COURT: All right. Could you bring your argument to a close. I find it interesting to listen to you, but I'm going to be giving everybody a chance. But I have read your brief which was very good.

MR. ZEDROSSER: Your Honor, I would close, I guess, by simply saying that this decision was one that was conceived before and during the embargo of 1974. It was rationalized afterwards. And I would agree with Mr. Like about his statements on the lack of consideration. And in many ways events have caught up with the Secretary. I think the times are changing. Nevertheless, the Secretary continued ahead in the straight line undaunted, unswerving, and he is going to have his lease sale no matter what. Now, that might be tolerable if it weren't illegal. He claims it is. Not only does it violate NEPA, it's going

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2 to run afoul of precisely the elements that the Court
3 has been pointing out, namely, the admitted powers of
4 the state.

5 THE COURT: I haven't pointed out anything. I
6 am trying to get your position.

7 MR. ENDRESSER: Yes. Well, our position on
8 this is clear, that the State of New York can
9 regulate and is regulating now what happens to its
10 vital coastal areas. And the tidal wetlands law,
11 among others, is a key part of that regulation.

12 Essentially, whatever federal government is
13 trying to do is present to the states a fait accompli
14 and say you are going to have a lease sale. Now, what
15 are you going to do about it?

16 And as the Court has pointed out, this could
17 backfire. Because if the states do what they can do,
18 at least with the current moratorium would suggest,
19 and that you cannot have any pipelines, the effect
20 could be very different than those which are assumed
21 in the impact statement.

22 Your Honor, we maintain that we have shown a
23 likelihood of success on the merits and demonstrated
24 possible irreparable harm.

25 I understand, your Honor, that exploration is

likely to begin relatively soon after leasing. EPA tells me that at least one oil company has already approached them for an effluent permit and there hasn't been a sale there yet. So I think there is an imminence. And I think we have demonstrated our case for a preliminary injunction.

THE COURT: All right, thank you very much.

MR. KAUFMAN: I think your Honor has demonstrated in answer to the question that you had asked the other day, about whether or not this is a charade or whether or not major federal agencies and major federal actions are subject to NEPA as against the policy considerations that are being made. I think you demonstrated your familiarity with the cases that hold that the agencies are all very definitely subject to NEPA. And in particular, the Department of Interior and the Pentagon.

I do wish to point out to your Honor that particularly where a presidential directive is involved, where agencies tend to minimize the application of NEPA, is just exactly what your Honor has been talking about this morning. It's been recognized in both the NRC and the other cases that NEPA's process is subject to very careful judicial

3 1 Now, one concern which the Court raised at
2 the close of the hearing, which has been repeated
3 again here this morning in the colloquy with counsel,
4 is the concern that in some way the states might
5 because of their own particular desires not to have
6 pipelines run on shore impose some restriction or
7 limit on these pipelines, either pursuant to their
8 tidal wetlands authority or some other state
9 zoning or regulatory statute, and that this would
10 result in a very serious environmental consequence
11 of having most or all of this oil shipped in by
12 tankers.

13 And I don't think there is any doubt or any
14 dispute that the tankers in terms of oil spill
15 probability pose a much more severe risk. But I
16 think that this particular problem was contemplated
17 by the EIS, the Sale 40 EIS, and was specifically
18 addressed in that Sale 40 EIS.

19 In fact at page 17 of Volume 2 the EIS
20 explains certain facts which would hinder or prohibit
21 the use of pipelines in the mid-Atlantic area, and
22 one of these facts, which is unequivocally stated
23 there, is receptivity of state and local jurisdiction
24 along the mid-Atlantic Coast to the approval of
25 pipelined landfalls that would be needed.

4
1 And in other sections of the EIS there is
2 extensive discussion of the various state
3 statutory authorities, whether it be tidal wetlands
4 acts or anything else, they do it individually, state
5 by state, for the state of Maryland and the state
6 of New Jersey, and they recognize that that is a
7 problem, that any decision that will ultimately be
8 made as to pipelines in their location will have to
9 be done with the consent and approval of the states.

10 THE COURT: Well, aside from that passing
11 reference that you first quoted, where else do they
12 say that the states under their laws may well prevent
13 or regulate the point of landfill?

14 MR. JENSEN: Well, it's mentioned in the
15 context of the discussion of the tidal wetlands
16 statutes which the various states have, and this
17 appears, the discussion appears in Volume 1, I
18 believe, at pages 50 and 52. There is some
19 reference to it.

20 But in addition in the discussion of the
21 Coastal Zone Management Act -- and I think this is
22 critical -- the purpose of that act as originally
23 set out and as amended was to address this problem,
24 that is to specifically encourage the states to plan
25 for these Federal developments. And it's a

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5 1 requirement of that act previously -- and now with
2 the amendments it's been made specific as to OCS
3 activities -- that the states plan to accept such
4 facilities. In fact the regulations promulgated
5 under the original 1972 act, and which are published
6 -- I have a Federal Register citation, I can provide
7 these to the Court; I think they are published at
8 15 CFR Section 923.14 and .15 -- specifically set
9 out in a chart the kinds of activities which the
10 states must plan for in their Coastal Zone Management
11 Plans if they are to receive continued Federal
12 funding to conduct this activity, and listed there
13 are energy production and transmission, oil and
14 gas well storage, distribution facilities, refineries.

15 THE COURT: Yes, but there is nothing in the
16 Act that compels the state to accept any of this.

17 MR. JENSEN: The Federal Government does not
18 have the power, obviously, to compel the states.

19 THE COURT: That's right, and there is
20 nothing -- I read the impact statement -- indicating
21 that it draws back to the attention of the Secretary
22 that he couldn't make these decisions unless the
23 states wanted to go along with them.

24 MR. JENSEN: I don't think that's a fair
25 statement, your Honor. I think there are --

6 1 THE COURT: All right, I'd like to know where
2 in the PDOD or where in the Impact Statement, except
3 for this passing reference you have just made, there
4 is an indication to him that the states have the
5 power and the statutes and the policies that may
6 prevent --

7 MR. JENSEN: The EIS goes even further than
8 what your Honor is suggesting. At one point the
9 Environmental Impact Statement actually sets out --
10 all right, Mr. Hyman has found a reference at
11 page 455 of Volume 2 that says at the bottom of
12 that page, "The wetland legislation in the respective
13 states would require permitting an Environmental
14 Impact Statement for pipelines proposed for
15 construction through the wetlands."

16 And it goes on: "Several states possess
17 regulations as part of their pollution preventive
18 programs that would require permits and appropriate
19 environmental analyses if proposed pipelines were to
20 cross any watercourse," and then it describes New
21 Jersey and Maryland legislation, and continues in
22 the same vein on page 456.

23 THE COURT: Is that what you are relying upon
24 as having alerted the Secretary of the Interior to
25 this possibility?

1 MR. JENSEN: That plus the other references I
2 gave, plus - This point I want to make: At page 32
3 of Volume 2 appears a table in which the people who
4 prepared this Environmental Impact Statement
5 calculated what the oil spill would be in terms of
6 quantity if all of the oil that would ever be
7 developed from the CCS activity in the mid-Atlantic
8 were to be shipped into the Coast via tankers
9 exclusively. Those figures are set out, there is a
10 quantification of the specific amount of oil spill
11 harm that can be expected if that contingency should
12 result.

13 THE COURT: I know, but the whole thrust of
14 the EIS and RDOB is that they are going to use pipe-
15 lines if there is a major strike. In fact wasn't
16 it the Army Engineers' letter which said that it's
17 unrealistic to have these oil spill figures in
18 because if it's a big strike you are going to use
19 pipelines?

20 MR. JENSEN: Your Honor, I don't think that
21 anyone can quarrel with that observation. It is
22 realistic to expect that pipelines will be used
23 because pipelines in this context are the most
24 environmentally desirable device. You would have
25 to think of a scenario in which the states would

1
2 else."

3 MR. JENSEN: Well, but the point is that if
4 the states are to receive this Federal largesse
5 under the Coastal Zone Management Act they have to
6 plan for the facilities. They have to plan and
7 they have to develop.

8 THE COURT: The planning for facilities means
9 planning for no facilities too, because they can
10 come up and say, "We don't want your stuff, take it
11 away."

12 MR. JENSEN: Well --

13 THE COURT: That's a plan.

14 MR. JENSEN: No, but they can't do that under
15 the Coastal Zone Management Planning Act.

16 THE COURT: I'd like to see where they say
17 that, when it's perfectly clear to me from the
18 legislative history that no compulsion should be
19 put upon the states one way or another. It's
20 supposed to be a free exercise in cooperation.

21 MR. JENSEN: Well, I call your Honor's --

22 THE COURT: I forget where it is, but in one
23 of the references there was a reference to no
24 pressure, or something like that, by the Secretary
25 on the individual states. Is it in the Act or the --

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Coastal Zone Management Act would not interfere with this new expansion --

THE COURT: Well, I think Congress understood this problem. But I didn't get the impression, and I may be entirely wrong on it -- I will reread the reference here -- that the SIS or PDOD brought to the Secretary's attention the major role that the states had.

MR. JENSEN: I think if you read the document you will find that it is contained in the --

THE COURT: I have read the documents but I will happy to reread them.

MR. JENSEN: I really think that it has to be viewed in the context of the Coastal Zone Management Act because that Act clearly conceives of, contemplates this problem, attempts to address it, attempts to encourage the state within itself --

THE COURT: Yes. It attempts to sweet talk the states into going along, but the states have their own mind and may very well decide not to go along.

And it is not wholly unrealistic. We have had this happen all over the country. The states tell the Federal authorities to go with your money

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2 THE COURT: I have serious doubt about
3 whether you -- about what you are saying is true --
4 or whether Congress intended that because the
5 problem that in effect permitted the Secretary of
6 the Interior to tell the Government and the state
7 legislature that they couldn't control their own
8 lands would really have a great deal of probity
9 in reflecting --

10 MR. JENSEN: Well, that is a legal problem.
11 The Federal Government cannot obviously tell them
12 what to do. The state itself --

13 THE COURT: The Act makes funds contingent
14 on the states giving up their power to keep all of
15 this out if they wanted to --

16 MR. JENSEN: Section 306(c)2 of the original
17 Act provides, and I am reading now, " ..prior to
18 granting approval of a management program submitted
19 by a coastal state the Secretary shall find that
20 the management program provides for adequate
21 consideration of the national interest involved in
22 the siting of facilities necessary to meet
23 requirements which are other than local in nature..."

24 Then the regulation goes on --

25 THE COURT: But they can consider it. They
can consider the national interest. We consider all

1
2 of these matters and we prefer that we use Jones
3 Beach for swimming and not to run an oil line on it.

4 MR. JENSEN: But the regulation contemplates
5 that. These requirements should not be construed as
6 compelling the state to --

7 THE COURT: Exactly.

8 MR. JENSEN: -- to accommodate certain
9 facilities.

10 THE COURT: That is exactly what I had in
11 mind. I believe that the history is quite clear.
12 The states can block this completely. And at the
13 moment, as I understand the representative of the
14 State of New York, the State of New York has said
15 as of this date you can't do any of this.

16 MR. JENSEN: No --

17 THE COURT: Without any special permit showing
18 a hardship. Is that the position of the State?

19 MR. ZEDROSSER: They certainly can't do it
20 on Title 11, your Honor.

21 THE COURT: Well, Title 11. does it include
22 the three-mile undersea area?

23 MR. ZEDROSSER: No, I don't think it would.
24 There is other legislation, however, which gives the
25 Department of Environmental Conservation the power

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MR. JENSEN: Mr. Hyman again has pointed out another reference in Volume 2, Page 463, where there is a discussion of the possibility of the shipping of the oil resulting from inability to be able to lay pipelines.

THE COURT: Well, I will be very happy to read all those references.

MR. JENSEN: But the point is -- I guess the point I am trying to make is the extent to which the EIS has to discuss this particular subject is determined by in part the virtual impossibility of doing much more. I mean, it is a problem. The statement recognizes that it's a problem. But how significant would it be to speculate about these areas. There is nothing that can be done about them. It is being done. Whatever can be done hopefully is being done.

THE COURT: As long as it clearly follows in a meaningful way and in the forceful way in the documents. Now, you can't take a set of documents that are six feet high and just slip in an occasional word here or there and say, this covers it. If you are right and there is a realistic statement of what is involved here, that is one thing. But that tells me the issue.

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2 Oh, no. Section 1314B. I am sorry. A and B.
3 They specifically provide for this right of
4 condemnation which I have been referring to.

5 And I think further evidence of the fact that
6 the Secretary was aware of this problem is that the
7 lease stipulation number 4, the one that talks about
8 whether or not pipeline right-of-ways can be
9 determined -- and it specifically says not only --
10 and this language, of course, was quoted at length
11 throughout the proceedings. The pipelines have to be
12 technically and economically feasible. But it says
13 that if the pipeline right-of-way can be determined
14 and obtained.

15 So in drafting that stipulation to apply to this
16 lease, the Secretary and his delegates had in mind
17 the possibility that one of the reasons the pipelines
18 may not be used, even though the thrust of the
19 stipulation is to use them wherever possible, is that
20 pipeline right-of-ways could not be obtained. There
21 is stipulation number 4 in the lease stipulation.

22 (Continued next page.)
23
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25

13

1 not permit pipeline landing. And I think in that
2 regard stipulation 4 is particularly revealing
3 because it shows that it was put into the lease, this
4 possibility; that the Secretary was not even going to
5 require the oil companies to do the impossible. That
6 is, to use pipelines if the state and local
7 government said they couldn't. And the consequence of
8 that, the tanking and the oil spill is contained in
9 the statements and in quite some detail.

10
11 THE COURT: Thank you very much. Your brief
12 was very helpful.

13 MR. BRUCE: Your Honor, my name is Edward Bruce
14 and I represent the intervening defendant, National
15 Ocean Industries Association.

16 In the brief that we filed in connection with
17 the post-hearing aspect of the case, we tried to
18 address ourselves at some length to the concerns that
19 have been voiced here in the interrogation of the
20 government --

21 THE COURT: Yes. I read your brief. It's very
22 helpful. You got it to me yesterday, as I recall.

23 MR. BRUCE: I did.

24 THE COURT: I appreciated that.

25 MR. BRUCE: You raised these problems in a way--

1 on Friday -- in a way that I certainly hadn't thought
2 sharply about them during the hearing. The trial was
3 devoted largely to the effects of one kind of fish.
4 or another kind, and other technical and scientific
5 issues of that sort.
6

7 I spent all day yesterday, Saturday, and
8 Sunday, going through the EIS trying to find out what
9 it says about this kind of problem because I hadn't
10 gone through it with that focus before. And we put
11 into our brief everything which it did say. We
12 didn't quote everything because we didn't have the
13 room. But I was surprised -- pleasantly surprised
14 that the very kind of roadblock -- whatever you want
15 to call it -- veto, confrontation, that your Honor
16 had raised as a possibility was specifically addressed
17 in detail in the EIS itself.

18 Page 20, 21 of Volume 2, there is a statement
19 that maybe it won't be possible to use pipelines.
20 Maybe tankers will have to be used. And among the
21 reasons in addition to the technical ones that were
22 recited in testimony -- and I think that you heard the
23 very reason of state authorization of land use, state
24 regulations of land use was specifically identified.

25 After that at pages 30 to 33 of Volume 2, there

15 1 was an analysis of what would happen, what if -- I
2 think one of the witnesses used that phrase, what if
3 tankers had to be used. And it was analyzed in detail.
4

5 Now, I thought in the light of what seemed to
6 be the relatively remote possibility of this un-
7 yielding confrontation between state and federal
8 government that was -- you know, that was beyond the
9 realm of what the rule of reason requires in looking
10 at all the possibilities that a development might
11 take place. I don't understand that. And we put this
12 in our brief. And I won't quote the pages to you
13 because you have it.

14 Repeatedly there are qualifications about
15 pipelines. They talk about minimization of tankers,
16 if pipelines are used, to transport OCS oil, et cetera,
17 et cetera.

18 I don't believe, your Honor, that anybody could
19 have come away from a reading of that EIS with a
20 misapprehension of what -- about what the Secretary
21 and the decision-makers in the Interior were told
22 about this kind of possibility of some state -- the
23 State of New Jersey, perhaps, Delaware, what have you,
24 taking the position that we simply won't allow pipe-
25 lines. The matter was specifically addressed.

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Now, I don't understand that. There are many, many citations in Volumes 1, 2 and 3 of the EIS about general state control of land use. I have them here. But it doesn't make much point in reading them into the record. But by casual glance I think there are about 10 parts of the EIS where that part is addressed. The same matter is addressed, of course, in less detail, but it is addressed in general ways in the PDOD for Sale 40.

So as to the contentions that have been raised here, that this was done in ignorance of this possible problem, I just don't think the record will support that.

Now, I would like to make some other observations. You have had a statement -- of course, it was under leading cross-examination almost from your Honor to the State of New York about what their statute means, about what the State of New York is going to do, et cetera, et cetera.

I reviewed before the oral argument the State of New York comments on the draft EIS. I reviewed the comments of New Jersey and the State of Maryland and the State of Delaware and the State of Virginia. There is not a single state -- certainly not New York --

19

1 you.

2 All right. I am sorry. I didn't expect the
3 argument to go so long. It's perfectly all right.
4 You can go as long as you like. I have all the time.
5

6 MR. BRUCE: In Volume 3 of the EIS, Page 32,
7 the comments were made during the draft of -- well,
8 you used certain assumptions about where you are
9 going to run the pipelines and how could you have made
10 the assumption when you didn't know -- you know, what
11 the local zoning, et cetera, would presently be. The
12 EIS responded to that and they said, we made certain
13 assumptions. But those were only general assumptions.
14 Where it may come ashore, it dealt with that problem.

15 Well, again, we have recited in our brief all
16 the citations. I find them impressive. We have a
17 rule of reason operating here and I think everybody
18 concedes that. The Secretary looked at reasonable
19 inference alternatives. And not even in the action of
20 the NRC against Morton, the case the plaintiffs
21 recite, and they said he doesn't have to consider
22 that if you repeal the anti-trust laws. And under the
23 light of what was told to him about the state's
24 posture, under the analysis of the state's regulatory
25 scheme, it seems to me it was ample.

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SELECTED TESTIMONY FROM THE PERMANENT
INJUNCTION HEARING

1
2 Rutgers University.

3 Q You testified earlier at the earlier hearing
4 that we had, the previous hearing that we had in this
5 matter; is that correct?

6 A Yes.

7 Q As a matter of fact, what you testified to at
8 that time -- I will just remind you -- is that you
9 considered the statement with respect to the environmental
10 impact for sale 40 on land use demand, which was for 160,
11 45 acres to be inadequate?

12 A Yes.

13 Q As a matter of fact, the number of acres that
14 you developed in testimony that would be needed was what?

15 A 12,220 acres.

16 Q There was an exhibit that was prepared, I
17 believe, by you showing those land uses, the different
18 land uses under EIS on the left-hand side and those that
19 you developed for the various purposes on the right-hand
20 side; is that right?

21 A Yes, that's correct.

22 Q Now, have you done any further research on
23 this subject since your testimony last summer?

24 A Yes, I have.

25 Q That was Exhibit No. 20. Plaintiff's

Exhibit 29 in evidence.

MR. LAFITTE: Your Honor, I wonder if Mr. --
if you can move it back this way.

MR. KAUFMAN: Surely.

THE COURT: Well, I would like to look at it,
too.

MR. KAUFMAN: Would it be better if I put it
over by the witness and then we can all look at it?

THE COURT: Yes, I think that would be better.

MR. KAUFMAN: Can everybody see it now?

Q Dr. Mitchell, I show you a document which is
marked Plaintiff's Exhibit for identification T202 and ask
you if you can identify that document.

A Yes, I can.

Q Will you tell the Court what it is, please?

A Yes. It's Volume 2 of the draft, environmental
statement for the 1977 outer continental shelf proposed
lease in the North Atlantic region for OCS Sale 42.

Q Is this one of the documents you studied
with respect to the adequacy of the treatment of land use
demands for lease sale 42?

A Yes.

Q Does that document develop figures for land
use demands for the kind of facilities that are needed for

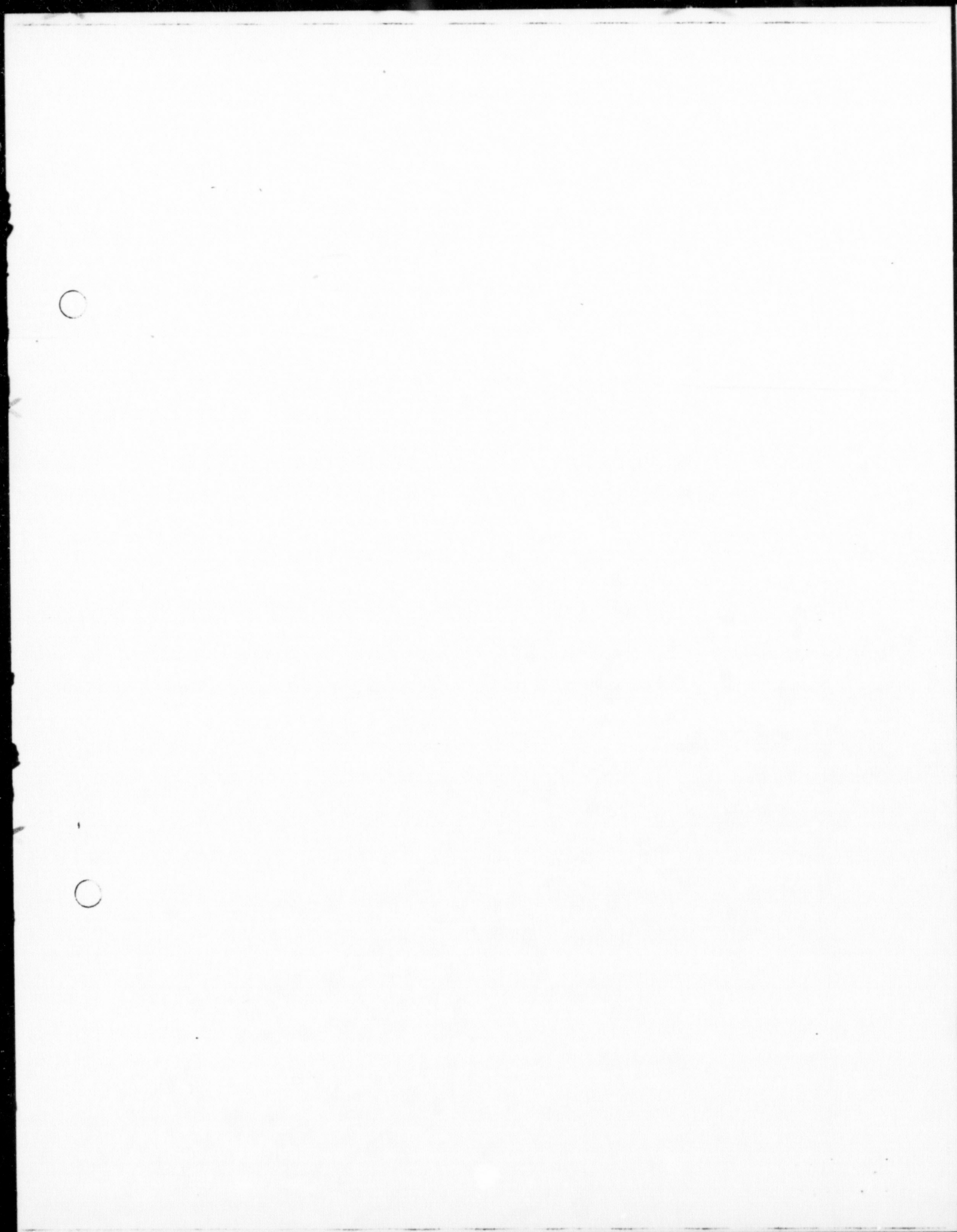
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2 oil exploration and development as they may occur in the
3 Sale 40 area?

4 A Yes.

5 MR. LAPITTE: If your Honor please, if this
6 witness is being interrogated with respect to Sale 40
7 through EIS, we would object on the grounds that
8 this document was produced after the filing of this
9 suit and after the draft statement was prepared and
10 after the hearing that was held, and we believe it
11 is not relevant to the issues in this case.

12 MR. KAUFMAN: If the Court please, this
13 document is being introduced to discuss the adequacy
14 of the land use impact and Sale 40. It is not being
15 introduced at all to discuss Lease Sale 42 except
16 insofar as the figures in that constitute an admission
17 against interest of the Government. Because the
18 figures that show up are very different from those
19 in Sale 40 which is what the testimony will be. And
20 they constitute an admission against interest on the
21 part of the Government, and they are not being
22 introduced to deal at all with Lease Sale 42, but
23 specifically with Lease Sale 40.

24 MR. HYMAN: May I be heard? It seems to
25 me, when a student takes the advice of a teacher and



Mitchell-direct

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2 This is a judicial review proceeding concerning
3 the propriety of extensive and administrative action
4 on a record which is essentially clothed with the
5 preparation of the environmental impact statement
6 for Sale 40. I think your Honor will recall perhaps
7 the colloquy you had -- I believe it was with
8 Mr. Kaufman during the argument on the preliminary
9 injunction when you asked -- when Mr. Kaufman was
10 urging that the impact statement should be set aside
11 or remanded, or what have you, because of the
12 subsequent passage of amendments to the Coastal
13 Management Act.

14 Now, the point that we stand upon is that what
15 is before your Honor today, as has been thought, this
16 litigation was to the -- the propriety of the
17 Secretary of the Interior's preparation of the impact
18 statement and his decision back in June to authorize
19 Sale 40. Neither does not contemplate the taking of
20 evidence concerning subsequent events such as this
21 kind of document and other evidence that Mr. Kaufman
22 may wish to offer on the basis of what he did inform
23 the Court of what his intentions are. We object to
24 the taking of that kind of testimony as exceeding the
25 bounds of judicial review which is contemplated in

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2 this kind of proceeding.

3 THE COURT: I am not going to consider
4 information that could not have been made available
5 to the Secretary at the time he made the decision on
6 40. But let me remind you of Rule 407 of the Federal
7 Rules of Evidence on subsequent remedial measures.

8 This rule does not require the exclusion of
9 evidence of such measures when offered for another
10 purpose such as proving feasibility and so on.

11 I take it, this is only offered as an indication
12 of what could have been done with 40.

13 MR. KAUFMAN: Clearly.

14 THE COURT: For that limited purpose. I am
15 taking it on the assumption that we can get it over
16 in 15 minutes. Because I don't think it's very
17 important and I don't want to spend too much time on
18 it.

19 MR. KAUFMAN: That's true.

20
21 MR. HYMAN: May I be heard again in support of
22 my application? The statements by the NSRD, again
23 concerning Sale 40, which I overlooked and I think it
24 is important. The Sale 42, treatment of on-shore
25 impact, Volume 2, Section 3, which is the volume this
gentleman has, is almost -- and this is Mr. Kaufman --

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Mitchell - direct

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THE COURT: Well, I agree. It is not worth very much. I think until I have heard it -- but I will give you fifteen minutes. Let's have it.

Q Have you compared the figures, Dr. Mitchell, that you developed for land use demands that are presented there at chart with the figures presented in sale 202 -- i.e. 42 in exhibit 2?

A Yes.

Q What is the basis of the comparison?

A I think the first thing that you have to understand about the comparison is that the maximum recoverable oil resources estimated for resale 42 --

Q Go ahead.

A You must understand that the maximum recoverable resources for resale 42 are only about a quarter of those estimated for resale 40. I can give you the figures, if needed. Yet, the amount of land required for support of this effort is approximately four times the amount estimated for the larger resources based in the resale 40 area, which is, I suppose, a factor of about a sixteenth difference between the two sales, taking into account the resources and the like requirements together.

Q Can you explain how this comparison -- what the comparison is that you have made?

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3 A Yes. I think the increase in the on-shore
4 acreage can be accounted for in two ways. First of all, by
5 changes in the land-use demand standards used by the Bureau
6 of Land Management. And secondly, by the addition of new
7 categories of land-use not considered in the resale 40
8 statement.

9 For example, in the first case, the different
10 standards would accrue something like the gas processing
11 plants where the resale 40 developed a standard of 20 acres
12 per plant. And resale 42 now admits that it's likely to be
13 as large as 75 acres. And additional government studies, such
14 as the Raleigh study and OTA study sustained that kind of
15 view. And this was the kind of thing I was bringing out in
16 the summer testimony. The example of the latter category --
17 that is, the addition of new land uses not considered in
18 lease sale number 40 will be such things as the total acreage
19 required for on-shore oil and gas pipelines. These weren't
20 included in lease sale 40, but they are calculated for
21 lease sale 42, using no different information than was
22 already available for lease sale 40. And, in fact, they
23 estimated somewhere in the order of 300 to 600 acres or a
24 limited number of pipeline.

25 And in addition, there are estimates for
pipe coating plants, which were left out in lease sale 40,

Mitchell - direct

which is now included for this smaller lease sale in the North Atlantic, and which are the consonant figures which I developed during the earlier part of the year and with other governmental calculations and OTA and the New England River Basin Commission Study.

There are figures for platform construction yards. One of a thousand acres is developed in lease sale 42. This was left out in 40 and could well have been included in there and should have been included in there.

In addition, there is considerable reference in the text of lease sale 42 to the need for refineries, one or more in the Middle Atlantic region, in all probability to take account of additional resources generated by both sales.

Q I show you a document which is marked as plaintiff's exhibit T-201 --

MR. KAUFMAN: Where it is stipulated that it may come into evidence, your Honor.

Q (cont.) And I ask you if you can identify that document?

A Yes. This is the United States Congressional Office of Technology Assessment, report of November, 1976, entitled, Coastal Effects of Off-shore Energy Systems, and it treats in part the effects of oil and gas development in the Mid-Atlantic region and its impact on the adjacent

shores of Delaware and New Jersey.

Q Is that one of the documents that you used for the purpose of making the comparison?

A Yes.

Q What is the basis of the comparison of that document as compared to sale 40 and as compared to the figures that you developed?

A It is in general more inclusive than use standards which are equal in -- generally greater than the land use standards as in 40. I think it's a brief treatment. I think that is clearly evident.

Q I shpw you --

MR. KAUFMAN: I move the admission of that document in evidence.

THE COURT: Well, it is marked in evidence.

MR. KAUFMAN: Yes.

THE COURT: It is marked.

MR. KAUFMAN: Okay.

(continued next page)

Mitchell - direct

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Q I show you plaintiff's exhibit T-203, also marked in evidence, and I ask you if you can identify that document?

A Yes. This --

MR. LAFITTE: Excuse me.

A This is a --

MR. LAFITTE: Excuse me, Dr. Mitchell.

I would like to register an objection to the offer of the last exhibit. I didn't hear the number.

THE COURT: 201.

MR. LAFITTE: The coastal affect --

MR. KAUFMAN: 201

THE COURT: My sheet shows it's already marked in evidence.

MR. KAUFMAN: It is.

MR. LAFITTE: It is marked for identification.

MR. JENSEN: Your Honor, there is a stipulation between Mr. Kaufman and myself on behalf of the Federal defendants, but no discussions were -- they were not participated in by the other defendants.

THE COURT: Then it should only have been marked for identification.

MR. KAUFMAN: I didn't know you had an objection. I thought --

Mitchell - direct

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3 MR. LAFITTE: On the same grounds that we
4 objected to the introduction of the --

5 THE COURT: What is the purpose of this exhibit?

6 MR. KAUFMAN: The same thing. These are the
7 three documents that the witness used to do the
8 comparison. They are all documents that show that the
9 land -- there were land use figures available to the
10 secretary at the time lease sale 40 was prepared and
11 which show that Professor Mitchell was right as
12 opposed to the --

13 THE COURT: All right. For the limited purpose
14 that T-202 is in, I will allow 201 and 203.

15 Q Dr. Mitchell, did you use the fact book as a
16 basis of comparison, too?

17 A Yes.

18 Q Have you compared the figures developed for
19 acreage demand with the fact book with the figures you
20 presented and the figures presented in the EIS?

21 A Yes.

22 Q In the fact book is 203 -- right -- exhibit
23 2037

24 A Yes, it is.

25 MR. LAFITTE: Again, your Honor, we do want
to object to testimony with respect to this document,

Mitchell - direct

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2 which has not been offered yet, but I assume it will be.

3 MR. KAUFMAN: I offer it now. And the Judge,
4 I thought, said he would accept it for the limited
5 purpose.

6 THE COURT: I will take T-201, 202 and 203 for
7 the same limited purpose.

8 Q How, what is the comparison you have made with
9 respect to the fact book as compared to the EIS sale 40
10 figures and the figures you presented on that chart?

11 A Again, similar to my response to the OTA report,
12 the figures in the fact book are in general larger. They use
13 larger standards for on-shore impact acreage than do the
14 lease sale 40 figures. It's considerably larger. They are
15 more inclusive with respect to the types of facilities that
16 would be required.

17 Q All right. Who prepared that fact book?

18 A It was prepared by the New England River Basin
19 Commission, I think, under the grant of the Raleigh Program.
20 That is, the Resources and Land Investigations Program of
21 the United States Department of Interior, Geographical Survey.

22 THE COURT: Would you excuse me for a minute?

23 You can all stay where you are, but I have a
24 witness who has been brought in by the marshalls.

25 (Recess taken.)

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THE COURT: All right.

Q Professor, you were about to tell us what is the comparison that you made for acreage demands between the facilities in exhibit T-203 with the figures presented in your --

A Well, I will repeat what I said before. That in general the standards used for land use demands in the RALI fact book are considerably larger than those used to estimate on-shore acreage demands in the lease sale 40. And there are also various categories of land use which were not considered in the lease sale 40 which were included in the RALI fact book as being likely on-shore impact.

Q Have you also considered any information that you received out of those books which -- with respect to the cumulative effects that were stated in the EIS number 40?

A Yes, I have.

Q What did you find in that area of cumulative effects?

A I found that things that were in quotes as cumulative effects in lease sale 42 could already -- were already known to have been likely outcomes of lease sale 40 and should have been included in the lease sale 40 statement.

Q Like what?

A The pipe line acreage on shore, the area of the

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2 platform construction facility, the pipe coating plant and
3 various smaller facilities, some of which are not specifically
4 identified in lease sale 42, but are indicated as part of a
5 miscellaneous category. Land use estimates would not develop.

6 Q Did you come to any conclusion with respect to
7 the cumulative effects because of the development of tankers
8 and because of the development of refineries?

9 A Yes. I concluded that the effects on the
10 Middle Atlantic region of lease sale 42 would be substantial.
11 That in fact there would be additional refinery activity.

12 MR. LAFITTE: I must renew the objection.

13 THE COURT: Sustained. I'm not going to
14 consider the cumulative effect of 42 on 40. It is
15 not before me.

16 MR. KAUFMAN: Well, the question is whether or
17 not that information was available to the Secretary
18 for the purpose of stating it within 40, your Honor,
19 which is a question that I really --

20 THE COURT: No, I don't want to get involved
21 in that.

22 MR. KAUFMAN: It is our --

23 THE COURT: He could approve 40 without
24 approving 42. I am not going to assume he is going
25 to approve 42. I don't want to get into 42.

Now, your fifteen minutes are almost up.

MR. KAUFMAN: All right. I have a couple of other questions.

Q What conclusions -- have you formed any conclusion as a result of the comparison that you have made?

A Yes.

Q All right. What are those conclusions?

A I concluded that the lease sale 40 land use estimates are unrealistically low. And ELM recognizes this in their later work in lease sale 42.

(continued next page)

DIRECT EXAMINATION

BY MR. KAUFMAN: (Cont'd.)

Q What are the consequences of your conclusions to the states in the Mid-Atlantic region?

A I think the estimates included in the 40 statement would be such that coastal planners and decision makers in the effective states would not have been given adequate information in which to develop coping state guides, what information they have from the environmental statement 40 is misleading and likely to cause them to underestimate severely both the amount and types of impacts.

MR. KAUFMAN: I have no further questions.

Thank you.

THE COURT: No, you are not through yet.

You have the other side.

CROSS-EXAMINATION

BY MR. LIKE:

Q Did you find any information in the sale 42 documents which you used as to what would happen to the oil production of the sale 42 area?

MR. HYMAN: Objection, your Honor, on the same grounds they are sneaking in the back door what you didn't allow.

THE COURT: What is the purpose of your .

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3 purpose of my decision on 40 because the secretary
4 when he gets to 42 can ignore 42 and say that 42
5 is not going to be permitted.

6 MR. LIKE: I treated it as a believable
7 consequence in this matter in my brief. I will
8 make an offer of proof at this time --

9 THE COURT: I don't want it orally. Put it
10 in writing because I want to proceed with the
11 hearing. I don't want to get involved in that
12 tangle. I understand logically there is a lot of
13 merit in your position. In my exercises of control
14 over the trial I am not going to expand it beyond
15 where we are now.

16 BY MR. LIKE:

17 Q Professor Mitchell, you testified on direct
18 examination that there would be a need for more refineries
19 in New Jersey. What was the basis for that statement?

20 A Are you referring to this direct testimony
21 or to my previous testimony.

22 Q Your direct testimony this morning.

23 A The basis for the statement was the judgment
24 that oil acquired from the Baltimore Canyon would not
25 necessarily replace oil imported into the middle Atlantic
states on a barrel to barrel basis and that there were a

1
2 number of supporting circumstances from such as the
3 likelihood of additional oil from the Atlantic region that
4 would lead me to suspect a need for an expanded or new
5 refineries in the mid-Atlantic.

6 Q By what motive would this be coming into the
7 mid-Atlantic for refinery?

8 A In most cases by tanker.

9 Q Did you consider the routes that would be
10 used by this additional oil coming into the New Jersey
11 area for refinery purposes?

12 A Yes.

13 Q What routes would be followed?

14 A In general route running from the vicinity
15 of Cape Cod paralleling the coast line of Connecticut and
16 Long Island to the ports in the north Jersey-New York
17 area and further south to Delaware.

18 MR. LIKE: Thank you.

19 No further questions.

20 THE COURT: Anybody else?

21 MR. HYMAN: I move to strike the last answer
22 of the witness. While everybody was busy preparing
23 Mr. Like asked a question concerning sale 42 and,
24 though 42 wasn't mentioned the witness answered
25 something about Cape Cod and that's not anywhere

Mitchell-Uros, -Ryan

2 Q That is the version that has all the figures
3 which you say were more expanded than the figures contained
4 for land use in sale 40?

5 A No. If you remember, I drew from a large number
6 of documents many of which were not draft documents, final
7 documents, this was only if there was one of the documents
8 was only a supporting document.

9 Q Did I shake your hand outside in the courthouse
10 this morning?

11 A I believe so.

12 Q I have no hard feelings against you. Do you
13 believe that? Will you please answer the question I asked?

14 A I said it did not. You said --

15 Q You testified two minutes ago that the land use
16 figures contained in the factbook were greater than the land
17 use figures contained in sale 40 in total land use for the
18 SIS on site facilities, didn't you?

19 A In general, I said the standards used were
20 larger than the standards --

21 Q What is the meaning of a standard, professor?
22 It means they said 100 acres as opposed to 25 for gas
23 processing plant?

24 A That is an example.

25 Q They are allocating greater acreage than allocated

3 2 in the EIS; is that correct?

3 A In general.

4 Q That is your testimony, right?

5 A What is my testimony?

6 Q What you just said the factbook allocates greater
7 acreage than the final EIS statement does. Is that your
8 testimony?

9 A I said in general. There are some exceptions.

10 Q How about in private? You mean in some instances
11 they allocate less land than the EIS statement does?

12 A I will have to check.

13 Q You certainly checked the general use, but you
14 didn't check the facts if they were the same or lesser use?

15 A Yes, I did.

16 Q You don't remember those figures?

17 A I'd have to look at each one.

18 MR. HYMAN: Well, I guess we will be more than
19 15 minutes on cross-examination.

20 Q On your direct examination, you testified as to
21 coastal effects as to offshore energy systems. You have it
22 there?

23 A Yes, Exhibit T-201.

24 MR. KAUFMAN: That is the exhibit.

25 Q You read that document?

CROSS-EXAMINATION

BY MR. LAFITTE:

Q Dr. Mitchell, certainly, the acreage figures that you've identified on the paper exhibit before you include figures that involve direct or primary land needs in connection with off-shore operations, and also some figures that include secondary, I think you called them, land needs that would be involved with respect to such operations; is that right, sir?

A I think they're all direct impacts with the possible exception of the second 6,000 acres and that is a direct impact in the sense it would be absolutely necessary for the support of the other impacts. There are a number of secondary impacts stemming from each of these which I didn't take into account at all.

Q The 12,220 acre total would be all direct with the possible exception, with the exception of the 6,000 acres, the second item there?

A I would consider is a direct impact, but we could argue.

Q This report -- I'm looking for the identification number of the Office of Technology Assessment report.

MR. KAUFMAN: T201.

Q T201 was prepared, Dr. Mitchell, by the Office

2 1
2 of Technology Assessment of Congress; is that right?

3 A Yes.

4 Q Do you know what the Office of Technology
5 Assessment is, is it an arm of Congress?

6 A Yes.

7 Q Does it have particular expertise, does it
8 develop or rely upon particular expertise and reports made?

9 A Yes, it indicates who the experts for this
10 particular report are, listed.

11 Q I take it that office might make all kind of
12 reports involving all kind of different technologies?

13 A Yes.

14 Q Does this particular report, in your judgement,
15 represent accurate portrayal of coastal effects of off-shore
16 energy systems?

17 A Inasmuch as I said I've read the section on oil
18 and gas for this particular purpose today, that's the one I'd
19 be most concerned to testify on. I think it's an improvement,
20 again, over previous documents, considerable improvement.

21 Q Would you turn to page 155 of that publication,
22 Doctor?

23 A 155?

24 Q Yes.

25 A Yes, sir, I have it.

Q In the blue chart of figures at the top of that page, the top left-hand corner, would you read for the record what that chart represents, please?

A "The total acreage given below is for on-shore support bases which most likely would be located in coastal supports such as Atlantic City or Cape May, New Jersey, or Lewes, Delaware. The totals are for peak activity years, most likely between 1980 and 1985."

Q Acreage figures are given for medium recovery and for high recovery situations, are they not?

A Yes.

Q And for exploratory drilling support, the acreage medium covered is 25 acres, am I reading that right?

A Yes.

Q And for acreage for high recovery for exploratory drilling, the acreage requirement is 30 acres?

A Yes.

Q The development drilling support, the medium coverage is 55 acres?

A Yes.

Q So the total support for total acreage requirement for support for medium recovery is 30 acres according to this?

A For support basis?

Mitchell-cross-Lafitte

60

Q Right.

A Yes.

Q For a high recovery, the total support is 170 acres?

A That's what it says.

Q Look at page 156, the next page.

A Yes?

Q Again, I'm referring to the figure, Roman numeral 4-18 which identifies certain off-shore activities or off-shore activity needs, I suppose I should say, were figures given for acreage requirement for those activities, is that correct, sir?

A Yes.

Q The activities referred to includes support basis and coastal supports -- I would like you to follow along with me to be sure I'm accurate; high pipeline corridors in coastal zone, pipeline corridors outside the coastal zone, tank farms, gas processing plants. The total peak land requirement given is 1645 acres, is that right, sir?

A Yes.

Q Those land requirements relate to OCS development during the years of peak activity, 1980 to 1990, New Jersey and Delaware under high recovery assumptions?

A Yes, that's what it says.

Q How would you compare -- what figure have you put on the board here that would compare to the figure I've just given of 1645 acres as shown?

A The total figure I calculated is somewhat over 12,000 acres.

Q I believe you testified earlier, Doctor, that the draft environment impact statement for the proposed sale, 42, estimates substantially higher acreage needs for the land uses for the support activities with respect to the operations contemplated, is that right, sir?

A Could you repeat the question again, please?

Q Maybe it was poorly worded. I'm just saying in your earlier testimony, it compared the environmental impact statement in draft form for sale 42 to the impact statement for sale 40 under consideration here. In your comparison showed you the land use needs as identified in sale 42 was substantially higher than those identified in sale 40.

A Yes.

Q Am I right that you were making that comparison as a criticism of the sale 40 impact statement?

A I was using it to illustrate some of the defects of the sale 40 statement.

Q I would like you to turn -- do you have the sale 40 impact statement before you, Doctor?

6 1

2

A No.

3

(A document is handed to the witness by Mr.

4

Kaufman.)

5

Q I would like you to turn to page 280 of that

6

volume two of the sale 40 impact statement.

7

(Witness complies.)

8

Q Would you turn, also --

9

A 2307

10

Q Yes, 230, please, Doctor.

11

A Very well.

12

Q Page in the Sale 42 impact statement which is

13

now before you in volume two, page 261.

14

MR. KAUFMAN: 261 of what?

15

MR. LAFITTE: Volume two of Sale 40.

16

A Yes?

17

Q Sale 40 impact statement, I believe we agreed,

18

contemplated the land needs for the sale of 40, the leasing

19

and development would be approximately 645 acres.

20

A Yes.

21

Q Was it your testimony that Sale 42, acreage

22

figure, that the acreage figure given of the Sale 42 impact

23

statement was about four times greater than that, am I correct?

24

A Yes, approximately.

25

Q And where do you get that figure from, Doctor?

1
2 A Page 960. In the lease Sale 42 volume ⁵³ it says
3 the total of between 563 and 885 hectares or 1713 and 2214
4 acres may be required.

5 Q These figures are explained in table Roman
6 Numeral 3-34 A which appears on page 95 and 962, are they
7 not?

8 A Yes.

9 Q The total figure given in that figure, in that
10 chart, is in three separate categories with total figure
11 being 600 -- I'm sorry, 1713 to 2214 acres, isn't that right?

12 A Yes.

13 Q That total figure includes, does it not, a
14 surface area that would be required for on-shore pipelines
15 and on-shore gas pipelines?

16 A Yes.

17 Q The acreage figures given for oil pipelines are
18 120 to 300 acres and for gas pipelines, 120 to 300 acres?

19 A Yes.

20 Q Doesn't the Sale 42 impact statement tell the
21 reader these acreage figures are not meaningful?

22 A Doesn't it tell them?

23 Q Yes.

24 A I don't believe it says they're not meaningful.
25 It says there are qualifications associated with them, but it

10

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Mitchell-cross-Lafitte

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Q Doctor, back to page 963, he -- I'm sorry, 962.

3

I'm interested still in the table Roman Mural 3-34A.

4

A Very well.

5

Q Where, in describing acreage needs for the Sale

6

42 development, there is an item 3, which is headed "Surface

7

Area for Facilities which may be required or stimulated in

8

the region;" am I right, sir?

9

A Yes, there is such an item.

10

Q Included under that is a platform construction

11

yard?

12

A Yes.

13

Q Which has a allocated to it, if it is established,

14

1290 acres, is that right, sir?

15

A Yes, I believe so.

16

Q Let me turn your attention again to the Sale

17

42 impact statement, the 645 acre total we've talked about,

18

did not include any acreage for a platform construction yard,

19

did it?

20

A Correct.

21

Q Haven't you really compared apples and oranges

22

here when you compared the 645 acre figure with the total of

23

1713 to 2214 acres which you referred to in the Sale 42 impact

24

statement?

25

A No, I don't think so. I think there are good

reasons for that. For example, the magnitude of the strikes expected in the two areas, it would seem to me if equivalent acreages can be produced, not taking into account this factor of four differences for the North Atlantic region, then one might well be able to increase the acreage taken into account the effect of the mid-Atlantic resource estimates are considerably larger than those in the North Atlantic.

Q What I want to remind you of the Sale 42 total acreage figure did include acreage for pipeline corridors which clearly were not included in the 645 acre figure --

A Also said it didn't expect pipelines to be numerous or to be the major way in which oil would be transported from the North Atlantic, therefore downgrading the relative importance in pipelines in New England as opposed to the mid-Atlantic states.

Q You're speaking now of statement in the Sale 42 impact statement?

A Yes.

Q Would you turn, again, to the Office of Technology Assessment report, Doctor, and to page 17 of that report.

A Yes?

Q To the portion on that page under the heading, "Off-shore oil and gas systems - Findings."

12 1

2 A Yes?

3 Q Then to the sub-heading, "Effects of OCS
4 Development."

5 A Yes?

6 Q Those figures include the following language
7 and I'm quoting:

8 "Oil and natural gas can be produced in the
9 amounts projected off the mid-Atlantic coast without
10 significant damage to the environment or destruction
11 of patterns of life in New Jersey or Delaware if
12 operations are carefully designed, planned and moni-
13 tored. However, careful planning, engineering and
14 strict operational monitoring are required for each of
15 these complex systems. To a large extent, such plan-
16 ning and monitoring would plan on the quality over-
17 sight of the responsible Federal agency." Did I read
18 that right, sir?

19 A I believe so.

20 Q You agree with that finding?

21 A I think it's incomplete.

22 Q In what respect, sir?

23 A Because the figures, the summary figure that
24 does not go on to talk about things that are talked about in
25 the body of the document, namely that the careful planning

and monitoring is not likely to come about under the present climate of opinion and the present procedures that are being used in the mid-Atlantic region.

Q This report states that, this technology assessment report contains that statement.

A It contains a number of statements from people who have authority over land uses and other things in the mid-Atlantic zone, pointing out the difficulties, the impediments of achieving reasonable planning and management and this tends to lend a very different cast to that statement when taken together with the qualifiers.

Q I believe we can agree it's not easy, Doctor.
Are you familiar with the Eagleton Institute of Politics at Rutgers University?

A Yes.

Q Do you know Dr. Steven Salmons?

A I know him by reputation. I don't know him personally.

Q You know what his title or responsibility is?

A I believe he's the director of the Eagleton Institute.

Q Are you familiar with a state-wide poll taken by that Institute of New Jersey residents concerning the exploratory oil drilling off the coast of New Jersey?

14

1

2

A I'm not familiar with the details of the poll.

3

I believe they did --

4

THE COURT: Sustained in any event. I don't

5

want this from a geographer.

6

Q Doctor, I'm just about through. I appreciate

7

your patience.

8

Were you testifying that the Sale 40 environment

9

impact statement is considered inadequate by you because it does

10

not inform planners, local planners as to how to deal with the

11

impacts of off-shore exploratory and development drilling?

12

A That's one of the areas of inadequacy.

13

Q Do you think that the factbook which you testi-

14

fied about in response to the direct and cross-examination

15

would be of assistance to the regional planners, the local

16

planners?

17

A I think it will assist them, yes. It's not

18

necessarily complete.

19

Q Do you think this technology assessment report

20

would be of assistance to such planners?

21

A I think it will provide some assistance, yes.

22

Q Is it your understanding that the purpose of the

23

environmental impact statement is to assist planners in pre-

24

paring for impacts from exploratory and development drilling,

25

off-shore?

1
2 A The purpose of environmental impact statement
3 is to inform people involved in making the decision about off-
4 shore oil and gas, about the likely environmental consequences
5 of their actions and in doing that to inform the public and
6 other decision makers that may be involved.

7 Q The impact statement isn't really to assist
8 local planners, is it?

9 A It's designed to acquaint them in parts, to
10 acquaint them with the information they may require or may
11 affect them in their operations,

12 MR. LAFITTE: That's all I have.

13 THE COURT: Anything else from the witness? Be
14 brief on redirect.

15 MR. KAUFMAN: Yes.

16 (Continued on next page.)
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Mitchell-redirect

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REDIRECT EXAMINATION

BY MR. KAUFMAN:

Q Would you turn, please, to page 136 of the OTA study? I think it's T-201.

A 136?

Q Yes.

A Okay.

Q Dr. Mitchell, when you went over this a couple of minutes ago with Mr. LaFitte, he got you to state that the new land requirements in that chart came to 1,645 acres?

A Yes.

Q And that the number in your chart came to 12,200 acres?

A Yes.

Q Does the OTA chart include any figure for refineries?

A No.

Q What was your figure for refineries?

A I believe -- I'm not sure which of these -- yes, the oil refinery, 1,200.

Q There is another 1,200 there.

Does this figure in the OTA chart include anything about a platform yard?

A No.

1
2 Q Does it include anything about a pipe building
3 plant?

4 A No.

5 Q Does it include anything about a town that would
6 grow up around the development of the facility such as a
7 platform yard and pipe facility?

8 A No.

9 Q What are the numbers, if you remember, that were
10 on the chart with respect to that which you originally
11 presented, is that the 2000 number and the 6000 number?

12 A That's correct, yes.

13 MR. KAUFMAN: Thank you, I have no further
14 questions.

15 THE COURT: Step down. Thank you, doctor.

16 MR. BRUCE: There is one thing limited on
17 recross on that very last line --

18 THE COURT: From where you are, doctor, just
19 stay where you are. Ask the questions.

20 RECROSS EXAMINATION

21 BY MR. BRUCE:

22 Q Doctor, it may be difficult to, to -- because
23 you are standing up and you don't have the document.

24 Mr. Kaufman in his redirect just developed with you that the
25 OTA report had no figures in it for additional refining capacity

Mitchell-redirect

3
1 and that explained in some measure what he suggested what it
2 explains. Isn't it a fact, Dr. Mitchell, that the OTA report
3 concludes that there will be no necessitated original refining
4 capacity by virtue of sale for operations?
5

6 A I would have to --

7 Q I'm directing you to page 169 and 170. If I
8 might briefly read because the witness doesn't have it?
9 "Discovery of oil offshore would not necessarily lead to the
10 construction of new refining capacity to process that oil
11 because refinery construction, expansion, decisions would
12 probably depend more on regional demand than on local avail-
13 ability of crude oil supplies. It is likely that OCS oil
14 would be processed in existent expanded refineries and would
15 replace higher priced crude from foreign sources by an
16 equivalent amount." Then there are figures on throughput.

17 Skimming to the next page on 170, --

18 MR. KAUFMAN: Is there a question, your Honor?

19 MR. BRUCE: I'm simply bringing out through this
20 witness, some explanation for why the 1200 acre figure
21 was omitted. In fact on the next page --

22 Q Is it not stated in the rate of growth of the
23 existing markets, markets not sources are products, where the
24 controlling factor than demands could be handled by expansion
25 of refineries already in place? Refineries in the area now

1211

Jarner-direct

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THE COURT: All right, proceed.

DIRECT EXAMINATION

BY MR. KAUFMAN:

Q Mr. Jarner, what is your occupation?

A My occupation is city planner. And I am employed by Cape May County as the County Planning Director.

Q Do you live in Cape May County?

A Yes.

Q You testified here at the preliminary hearing too, did you not?

A Yes, I did.

Q Can you just briefly for us, using the map that we have over there --

MR. KAUFMAN: Your Honor, I think I have counsel's consent that the exhibit may come in. I am not sure that it is marked so it will probably be --

THE COURT: All right, mark it.

THE CLERK: Plaintiff's Exhibit T 222 marked in evidence.

(So marked.)

Q Would you briefly for the Court, Mr. Jarner, describe Cape May County, where it is, how big, what its elevation characteristics are, please.

A Cape May County is an appendage at the southern

Jarner-direct

end of New Jersey of 267 square miles. It is approximately 32 miles long, surrounded on the east by the Atlantic Ocean, and on the west, partially by the Delaware Bay. The county is approximately one-third marshland wetland. It has extensive beach areas both on the Atlantic side and the bay side.

I will illustrate on the map some of the characteristics of the county.

Q All right, if you would.

A The island community of Ocean City, Sea Isle, Stone Harbor, Avalon and Wildwood, and the city of Cape May are known as the resort areas of the county. And in those areas are the bulk of the tourist population in the summertime which ranges upwards to a million people on peak weekends. The winter population, permanent population, is approximately 70,000. So the population increases by some tenfold during the summer months.

The wetlands, marshlands are mostly located between the island community of the mainland's broad band to the south. The county's dependence upon tourism is pretty obvious. In the summertime the population multiplies tenfold.

Q About how much of that county is under the ten foot contour?

3 1
2 A Approximately two-thirds of the county is
3 below the ten foot contour.

4 Q What is the significance of it being under the
5 ten foot contour?

6 A Well, a large portion of the county is subject
7 to flooding. Two-thirds. A large portion of the county is
8 wetlands, which is a valuable resource.

9 Q Does it create drainage problems within the
10 county?

11 A Yes.

12 Q Could you explain to the Court what the
13 consequences are of an oil spill taking place from a pipeline
14 would be in the county because of that ten foot contour?

15 MR. JENSEN: Objection. I don't know how this
16 bears on the inadequacy of the environmental impact
17 statement. And besides we had no offering that this
18 individual is an expert on oil spills. We went
19 through all of this before. If they wanted to call a
20 biologist or some other qualified scientist to testify
21 on this subject, we will do it again. But I don't
22 think this witness is qualified to testify as to
23 these rather complicated issues.

24 MR. KAUFMAN: If you want, your Honor, if
25 counsel insists on it, I can develop that this witness

Jarner-direct

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as Planning Director is in charge of drainage of the County. He knows about the drainage in the County and would state it. You know, the answer to the question is a relatively simple one.

THE COURT: All right, I will take it.

MR. KAUFMAN: All right.

THE WITNESS: Could I hear the question?

MR. KAUFMAN: Can you read the question?

(Record read.)

THE WITNESS: Well, simply the --

Q Go ahead.

A The fact that a large portion of the County or the majority of the County is either wetlands or very low lying land subject to flooding, it means that any kind of pollution on the land or that land that is subject to flooding could create serious problems in terms of its containment, its confinement and its policing and cleanup as compared to a high and dry piece of land where a spill would be -- would not be subject to flooding conditions and could be more easily cleaned up and controlled.

Q What other sources of revenue of Cape May County now?

A The major source of revenue of Cape May County is the tourist economy.

Q Is there any heavy industry in the County at all?

A There are only two industries which I can consider to be of the heaviness type. A magnesium plant which is at the southern end of the County and the BL England Generating Station which is at the northern end of the County.

Q That's a power station?

A Yes. That generates electric power.

Q Now, you said the population of the County is about 70,000 in the winter time. Can you give me any estimate of its breakdown in ages? Is it largely an elderly population or largely -- is it a distributed population?

A One significant characteristic of the permanent population is that it has a very large percentage of elderly, a larger percentage than any other county in the State.

Q Is the Bay used as well as the ocean for recreation purposes?

A The Bay is used extensively for fishing and boating. Not as extensively, of course, for swimming and beach activities.

Q Now, using the map, could you show to the Court, please, the intensity of the development along the beaches in Cape May County.

Jarner-direct

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2 A The Island communities from north to south,
3 Sea Isle, Stone Harbor, Avalon, Wildwood and the City of
4 Cape May are for the most part, if not all, fully developed
5 except for those lands which are beaches and those lands
6 which are wetlands and subject to state regulations restrict-
7 ing development. So for the most part the Island communities
8 are wholly developed.

9 Q Is there any particular place within that
10 whole County beach front that you can point to where you
11 say where it is possible that a pipeline might come across
12 easily without interfering either with this beach develop-
13 ment or with the wetlands?

14 A No.

15 MR. BRUCE: Before he answers that question,
16 I want to object, because it's clear where Mr. Kaufman
17 is going with him. Based upon the prior description --
18 we would like to register an objection based upon
19 some of the principles that we have articulated
20 earlier today and I think your Honor largely accepted.

21 Mr. Jarner is obviously being led by -- not
22 led, but interrogated by Mr. Kaufman toward a
23 statement but there is no place where pipelines can
24 come across a shore in Cape May County; that Cape May
25 County will resist them, et cetera, et cetera. There

1
2 pipelines should be mandated. That it was Cape May's
3 decision that there should be pipelines provided
4 they are in the right spot. He identified certain
5 and specific locations.

6 Now, we don't think it's proper to bring a
7 line of testimony through a witness like this who
8 did appear, and which now is basically contrary to
9 the position of the administrative procedures, nor
10 of any other witness who did not make these views
11 known to the executive decision. And now to just
12 de novo develop this position of opposition that is
13 forthcoming -- and I want to get our views on record
14 now before we slide into this point because I think
15 this is where the testimony is going --

16 THE COURT: All right, overruled. I will
17 permit it.

18 But be brief.

19 Q Go on. What I asked you, is there any spot
20 along there that you can point to where a pipeline could
21 come which would not interfere either with the development
22 of the resort community in that it is already developed or
23 with the wetlands?

24 A No.

25 Q Does the County Planning Board control the

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Jarner-direct

84a

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2 zoning in your County?

3 A No, it does not.
4

5 (Continued on next page)
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JB/tk

Jarner - direct

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4am2

Q What is the extent of local zoning ordinances within your community -- within your county?

A Each of the 16 -- each of the 16 municipalities has a zoning ordinance.

Q Do any of them have zoning which would permit construction for oil development? That is, either refineries or processing plants or pipe coating plants, something like that, without a variance?

A No.

Q Can you describe briefly what a typical zoning ordinance within your county would be? Is there a sort of standard form?

A Well, a typical ordinance has two or three residential zones. Maybe two commercial zones. And one, possibly two industrial zones.

Q Would you characterize them as being ordinances which have permit use and then prohibiting everything else?

A Yes.

Q Has the county had input into these zoning ordinances of the towns?

A Yes.

Q Have the towns and citizens within the county followed the county's suggestion?

A In some cases, yes. Some cases, no.

2 Jarmer - direct,

86

1
2 Q Are the towns independent in what it is
3 that they adopt?

4 A Yes. The towns have --

5 Q What suggestion has the county made about oil?

6 A The county planning board --

7 THE COURT: When?

8 MR. KAUFMAN: Your Honor, prior to the time, I
9 would say, of the impact statement, let's say, for the
10 three or four years going back to prior to July of
11 1976.

12 THE WITNESS: Yes. The county planning board,
13 I believe over a year ago, recommended some specific
14 language for local zoning which would control the --
15 and specifically limit any oil related heavy industrial
16 activities.

17 Q Has it been adopted in any way?

18 A In several of the towns, yes.

19 Q What other areas does the county planning board
20 -- In what other areas does the county planning board have
21 influence other than input into the -- other than the creation
22 of zoning?

23 A By statute the county is required to have a
24 comprehensive plan or regional master plan. And that master
25 plan is the basis for county control over subdivisions and

1
2
3 site plans on county roads. The county's control is somewhat
4 limited to the preservation and maintenance of the county
5 road system and county-wide drainage system.

6 Q Go on. I'm sorry.

7 A The master plan is the regional master plan for
8 the county, and as such should be related to -- relate to
9 local master plans.

10 Q Does the -- What is the influence that the
11 county has had over drainage?

12 A Well, the county road system basically forms a
13 drainage system in the county. And to the extent that any
14 development creates any drainage problems to that road system,
15 the county has control over locating structures or locating
16 drainage facilities in the county.

17 Q Can it also reduce them on the basis of that
18 that they would create too much surface run-off or something
19 like that?

20 A If a road would have a very negative drainage
21 or have a serious drainage problem to the county road system,
22 the county could make requirements on it. And in extreme
23 cases it could deny some operation of some facility.

24 Q Does the county consider that an oil pipeline
25 coming through it with leaking possibility might be something
that would be subject to its jurisdiction for purposes of

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controlling drainage?

A Consequently it might.

MR. BRUCE: May we have a continuing objection to this line of interrogation on the principle that I articulated a few minutes ago?

THE COURT: Yes.

Q Now, within your county, how had the elected officials found out what is on the people's mind?

A Well, the elected officials are elected. And to a certain extent that --

THE COURT: Excuse me.

MR. LAFITTE: I object to this.

THE COURT: I don't know where we are going now.

MR. KAUFMAN: Well, your Honor, there is in information that has been put together on this that Mr. Jarner has and I would just want to find out --

THE COURT: Do you mean opinion polls?

MR. KAUFMAN: Pardon?

THE COURT: Opinion polls?

MR. KAUFMAN: Among other things. Yes. There is one.

THE COURT: No.

Q Does the county have input into the coastal areas facility review activity?

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2
3 A Yes, it does.

4 Q Would you describe that input?

5 A That input is in two major areas. First, it is
6 in the comprehensive planning aspect for the development of a
7 management strategy for the coastal zone by the State of
8 New Jersey. The county is actively participating in the
9 development of that strategy to the extent that they have a
10 grant from the State and have hired a planner on my staff who
11 does nothing but work with the State of New Jersey and local
12 municipalities in the development of that master plan strategy
13 for the coastal zone.

14 Q What is the master plan strategy?

15 A The master plan strategy is that New Jersey
16 involve for its coastal zoning basically -- it basically says
17 what land uses will be allowed in the coastal zone, where they
18 should be or where they shouldn't be located and what their
19 density should be.

20 Q You said there were two things that the planning
21 -- is there another one?

22 A The other side is the review and permit process
23 for major applications in the coastal zone. And the present
24 New Jersey statute requires that any major facility
25 including housing, major commercial activities, marinas,
the hotel industry, to go through the permit and review

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process of the State of New Jersey.

Q Would a pipeline be included?

A A pipeline would be, in my view, I believe in the state considered to be a major facility.

Q Go on.

A It's a rather lengthy review process requiring an environmental assessment and public hearings and public input to the county to review each of these applications and make specific recommendations to the State.

Q What has the experience been with the county with respect to the permit?

A The experience has been that the county's recommendations have been recognized by the State to a great degree in their opinions. Of the 35 applications to date, 7 have been denied. And in all 7 cases, the county has commented negatively on those applications. And the State in many cases has used a language that the county has used in its negative comments in its rejection.

Q How about in the others?

A In the others, the county has made a number of comments not heavily negative, like it had in the 7 that had been denied.

Q Is it fair to state that the State has, or that the capitol agency has not overruled the county in any of its

7 1
2 recommendations with respect to whether or not a project
3 should be allowed?

4 A Would you say that again?

5 Q Is it safe to say that New Jersey's capita
6 permit process, which you might describe as a two or three-
7 tier process where -- that is, at any one given stage from
8 local to county to state, is a veto possibility? Is that a
9 fair way of describing it?

10 A The way it has worked to date is that if a local
11 zoning ordinance or municipality does not allow a project --
12 that it stops there. It doesn't get to capita. There have
13 been no formal recognition of any plans or county land use
14 controls. We are developing with the State a process by
15 which we would have a three-tier level of review; that a local
16 plan would be recognized and a county plan recognized, and
17 finally the State coastal zone plan recognized.

18 Q Do you know what the attitudes are of the
19 officials of Cape May County to pipelines across the beaches
20 of Cape May? Do you know from your own knowledge?

21 MR. JENSEN: Objection.

22 MR. LAFITTE: Objection.

23 THE COURT: Sustained.

24 MR. KAUFMAN: Your Honor, on that, if this
25 gentleman has had the contact with them because he is

Jarner - direct'

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3 planning officer, he might very well know this. And
4 that, it seems to me, is a proper subject for him to be
5 able to state, does he know what their attitudes are,
6 because -- because it affects his planning. He deals
7 with them all the time.

8 THE COURT: I don't want to get into opinions
9 and polls.

10 MR. KAUFMAN: This isn't an opinion of the
11 people. It is only of the officials with whom he deals.

12 THE COURT: It is just one level removed. I
13 just don't see that I can try this on the basis of
14 what the public feels about it. That's not our purpose
15 here.

16 Q Mr. Jarner, at your previous testimony you had
17 said you were familiar with the impact statement; is that
18 correct?

19 A Yes.

20 Q Were you familiar with the following quote on
21 page 25, which I would like to read to you.

22 MR. BRUCE: Which volume?

23 MR. KAUFMAN: Volume 2. Excuse me, page 25.

24 Q It is called, Pipeline Accidents. It goes as
25 follows:

"Spillage analysis for this proposed sale is

projected from the Gulf of Mexico data which has the longest Federal OCS statistical record available. Upon examining Tables III-7 through III-9, it is seen that pipeline breaks and leaks account for only 8.24 percent of the accidents but 34.88 percent of the spill and 67.62 percent of oil spilled. Since new regulation concerning pipelines went into effect in 1970, these percentages have experienced a change. Since 1970, pipeline breaks and leaks accounted for only 6.35 percent of the accidents, 38.10 percent of the spills, but only 24.51 percent of the oil spilled."

Have you read that statement when you were originally reading the impact statement?

A Well, I never read the entire impact statement.

(continued next page)

Jarmier - direct - Kaufman

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Q Were you familiar with that particular --

3 A I am familiar with that portion of it.

4 Q Now, do you know what the attitudes of the Cape
5 May citizens and officials are toward pipelines as opposed to
6 tanker --

7 MR. JENSEN: Objection.

8 THE COURT: Sustained.

9 Q Can you predict, Mr. Jarmier, from your position
10 as being in the county, what would happen within your county
11 if a pipeline were to be proposed across a Cape May beach?

12 A I believe there would be wide spread opposition.
13 And I believe --

14 MR. LAFITTS: Objection.

15 MR. JENSEN: Objection.

16 THE COURT: You objected too late. Object when the
17 question is asked.

18 I will allow it.

19 It is clear that that would be the answer.

20 All right, let's bring it to a close.

21 Q As a planning director of Cape May, do your duties
22 involve anything about oil spills?

23 A Well, being familiar with the possibility of them
24 and of the dangers to the county --

25 Q Have you done anything within the last couple of

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Jarmier - direct - Kaufman

witness? I am sure he wants to get back to his work.

MR. KAUFMAN: Well, I wanted to go into this whole subject of what goes on out in the Baltimore canyon in the sea.

THE COURT: I won't permit it from this witness. He's not an expert.

MR. KAUFMAN: But he is an actual witness.

THE COURT: I know. But I am not going to bring in fishermen and destroyer reservists and extend this indefinitely. I don't want it.

MR. KAUFMAN: Well --

THE COURT: You have ample other information on it.

Thank you very much.

Any further direct examination?

MR. LIKE: May I inquire from my place here?

THE COURT: You may.

MR. LIKE: Will you give the witness the coastal effects report, number one?

MR. KAUFMAN: This one?

MR. LIKE: Yes.

DIRECT EXAMINATION

BY MR. LIKE:

Q - Directing your attention, please, to page 72 of

Jarnier - direct - Like

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1 THE COURT: Offer it in evidence.

2 MR. LIKE: I will offer it in evidence.

3 For the record, may I show the letter to the
4 witness and have him identify --

5 THE COURT: No, it is authenticated. It's a
6 proffer of proof.

7 MR. LIKE: So that I may be guided and not
8 belabor the record, will you permit questions to be put
9 to this witness concerning the effect of increased
10 tanker traffic from the resale 40 area and the effect
11 of that tanker traffic upon navigation and safety
12 because of the shipping lanes used by the tankers?

13 THE COURT: No. Obviously, it's going to increase
14 dangerous spills and increase the danger of collision.

15 MR. LIKE: I would like to establish for the
16 record the location of these lanes and the relationship
17 of the location to shoreline estuary areas.

18 THE COURT: It is not necessary. Everybody knows
19 they come into that area. They have to go into that
20 section and approach the coast in order to get to
21 Philadelphia and that whole industrial complex.

22 MR. LIKE: May I therefore assume that your
23 Honor is taking judicial notice that that would be the
24 effect?

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Jarnier - direct - Like

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THE COURT: Of course.

3

MR. LIKE: Then I have no further questions.

4

Oh, excuse me.

5

Q Mr. Jarnier, do you know whether or not the
Cape May regional areas are used by residents of the state
of New York and New England?

8

A I believe they are, yes.

9

Q And do you know whether the fisheries off the
coast of New Jersey are used by fishermen from New York
and New England?

12

A I have to assume that they are.

13

THE COURT: Don't answer.

14

THE WITNESS: I don't know.

15

Q Do you know whether New Jersey residents and
particularly residents from Cape May county use the beaches
and recreational areas of Long Island?

18

MR. JENSEN: Objection.

19

MR. LIKE: Your Honor, this is not intended to
be frivolous, I assure you.

20

21

THE COURT: If he knows.

22

Q If you know?

23

A I don't know.

24

25

Q But you do know that there are out of staters
from New England and from New York who use the New Jersey

Q Would it be a fair statement to say the Sale 40 EIS contains an estimate in the neighborhood of 50 to 100 feet in width, that neighborhood -- for pipeline and gasline corridor?

A I'm not sure I understand the question. Are you asking me if that's in that publication?

Q Yes.

A I don't recall exactly. If it is in there it is in there.

Q Do you have any knowledge of what a particular width might be for a pipeline corridor?

A I'm not an expert what the width of the pipeline corridor should be, no.

Q Do you think there exists anywhere along this coastal area a vacant industrially zoned area that would -- that are more than 100 feet in width?

MR. KAUFMAN: Again, objection. What the witness testified to before was precisely along the coastal area, not in the industrial area. Counsel at this point should try to locate, if he wants to, the location of the industrial areas. He hasn't established they are any place along the coast.

THE COURT: I'm not sure I understand the question.

Jarner-cross-Jensen

Q Your prior testimony -- industrially zoned vacant land was along Cape May County; I want to ascertain if there's an area falling with this vacant industrial zoned sections that would be sufficiently large to accomodate --

A I can answer the question.

MR. KAUFMAN: I'm going to object to the question. If anything else, on the grounds of fairness, I think they are trying to create an impression that the witness did not give.

What the witness stated before was all along the beach communities it's either beach land or wetlands. He has not testified that along those beach areas there is industrial land. If he wants to ask that he should ask that first.

THE COURT: Overruled.

Q What is your answer?

A I believe I did say in the mainland communities there were industrial areas zoned for industry. I don't know of industrially zoned land along the island communities; that is the beach communities that would be suitable for pipeline corridor.

There may be areas in the mainland which are zoned industrially which may be suitable for pipelines.

Q How much of this shoreline of Cape May County

Jarner-cross-Jensen

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2 is taken up by these beach communities that you refer to?

3 A The whole shoreline.

4 Q Would it be your testimony then that there
5 wouldn't be a hundred feet of vacant developable land in that
6 entire area?

7 A My opinion would be if the pipeline were
8 proposed to go through or across the beaches of Cape May
9 County there would probably be a variance required. I don't
10 think the zoning would permit a pipeline to cross any of the
11 island communities.

12 Q Isn't a variance a procedure that's often used
13 as a means to accomodate some proposed industrial use in a
14 residential zone or commercial of some other kind?

15 MR. KAUFMAN: Objection, calling for a legal
16 conclusion.

17 THE COURT: Overruled.

18 A A variance is one -- variances are used
19 to gain exceptions to zoning regulations, yes.

20 Q It's a fairly common device that would be in
21 use in your county?

22 A I'm not sure what you mean by "common". It's
23 allowed in every zoning ordinance and variances do occur in
24 every municipality from time to time. It's not common. It'
25 an exception to the rule.

Jarner-cross-Jensen

Q I believe you testified concerning a recommendation that was made by the Cape May County planning Board to the localities about zoning out oil and gas related facilities?

A That's right.

Q When was that recommendation made?

A It was well over a year ago. I don't recall the exact date, a year, a year and a half ago.

Q How many municipalities that have zoning power exist in your county?

A Sixteen municipalities.

Q Of those sixteen municipalities how many have adopted or in any way formally approved this recommendation from the Planning Board?

A Two or three at this point in time.

Q Have there been any of the remaining 13 or 14 that have indicated that they would not approve or adopt this recommendation from the County Planning Board?

A Did indicate they would not approve the recommendation?

Q That they disagreed with your recommendation or the Board's recommendation?

A No, not to my knowledge.

Q Was this recommendation made in any written form?

Jarner-cross-Jensen

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A Yes.

3

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Q Do you have a copy of the written recommendation with you?

5

6

A I don't have one -- no, I don't have one with me.

7

8

Q Did the recommendation set out any reasons for the --

9

10

11

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14

A Well the recommendation had a sort of preamble, the basis of the community's economy was tourist-recreational resort basis and to preserve that tourist base and to promote tourist economy, it was necessary to control and restrict uses so the environment would not be endangered and so that the tourist base would be maintained.

15

16

To that end we have listed some types of uses that should be prohibited and strictly controlled.

17

18

19

Q Was the desire to promote the tourist or preserve the tourist economy the sole basis for this recommendation?

20

21

22

A Yes.

Q I realize we have been over this before, but I want to make a record on this point.

23

24

25

Isn't it fair to say the County Planning Board only has the power to recommend and not to actually control any local land use decisions?

Jarner-Cross-Jensen

A That's correct.

Q In making this recommendation, I would like to know what information the County Planning Board had before?

A Well, the County Planning Board has a comprehensive plan and it had, I would say, a background of being involved in the oil-related issues such as the deep water port issue raised a number of years ago.

Q For example, did you rely on the Sale 40 EIS, either in draft or final form?

A I believe this recommendation took place either at the same time or even before the drafted EIS.

Q Would it be fair to say you did not rely on the factbook or this related publication, "Estimates for New England"?

A No, the basis for the recommendation was that the local municipalities should support county comprehensive plans which calls for preservation of the environment and maintenance of the economy of the county, which is the mainstay; that's the basis for the recommendation.

Q Did you rely on any outside scientific studies concerning the possible effects of OCS related development?

A No.

Q To follow up on an earlier question, as to the approximately 12 or 13 towns, municipalities in the county

1 that did not adopt or approve this recommendation; do you
2 know whether or not this recommendation was ever submitted to
3 any kind of formal vote of any of the governing boards or
4 political bodies of any of those communities?
5

6 A No, I don't.

7 Q Did any of these communities hold hearings on
8 the recommendation?

9 A Not to my knowledge.

10 Q You made the recommendation and you just got
11 silence in return?

12 A From a number of communities -- were silent,
13 sir.

14 Q It's been now by your testimony over a year and
15 a half since the recommendation was made?

16 A Well, at the present time we are following up
17 and are meeting with each municipality to discuss further
18 those recommendations.

19 Q But you received no response from them, either
20 affirmatively or negatively at this point?

21 A We have been asked by every municipality to
22 help them update their master plans and zoning ordinances in
23 accordance with the new land use law in New Jersey.

24 It will be including these recommendations, when we
25 discuss the updating of their master plans. It's a continuing

1
2 process.

3 Q Did any of these municipalities express con-
4 cern about their property tax base and how it might be effec-
5 ted by this potential onshore development?

6 A The only concerns that I have heard from
7 municipalities are the concerns of potential pollution from
8 offshore oil and also revenue use and rateables, from oil
9 spills and problems from offshore development.

10 Q What do you mean by rateable?

11 A A hotel, a motel, a restaurant.

12 Q Would that term apply to any commercial
13 property --

14 A A rateable would be any property which pays
15 taxes, yes.

16 Q So that a gas plant or oil refinery would also
17 be considered a rateable?

18 A Yes.

19 Q Isn't it true that it's still the case in
20 New Jersey that the property tax is a major source of funding
21 for local municipalities' expenditures?

22 A Yes.

23 Q No community has ever specified a desire to
24 you to attract this industry to increase its property tax
25 base?

Jarner-cross-Jensen

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2 A There have been some discussions that were
3 in the county and municipalities. I've indicated that certain
4 types of industry which might be indirectly related to oil
5 industry would be acceptable as long as they did not pollute,
6 as long as they did not disrupt or disturb the economy, which
7 is the mainstay of the base of the county.

8 Q Has it ever happened in the past that a
9 locality zoned to accept the tax rateable in your county in
10 violation of some suggestion or recommendation of the county
11 planning board?

12 A Well, the recommendation of the County Planning
13 Board isn't always taken. Certainly community, yes, do zone
14 the rateables.

15 Q So that could just as easily occur with oil
16 and gas facilities that would be related?

17 A Yes, it could.

18 Q I believe you testified concerning the county's
19 participation in the Coastal Area Facilities Review Act
20 Program in New Jersey?

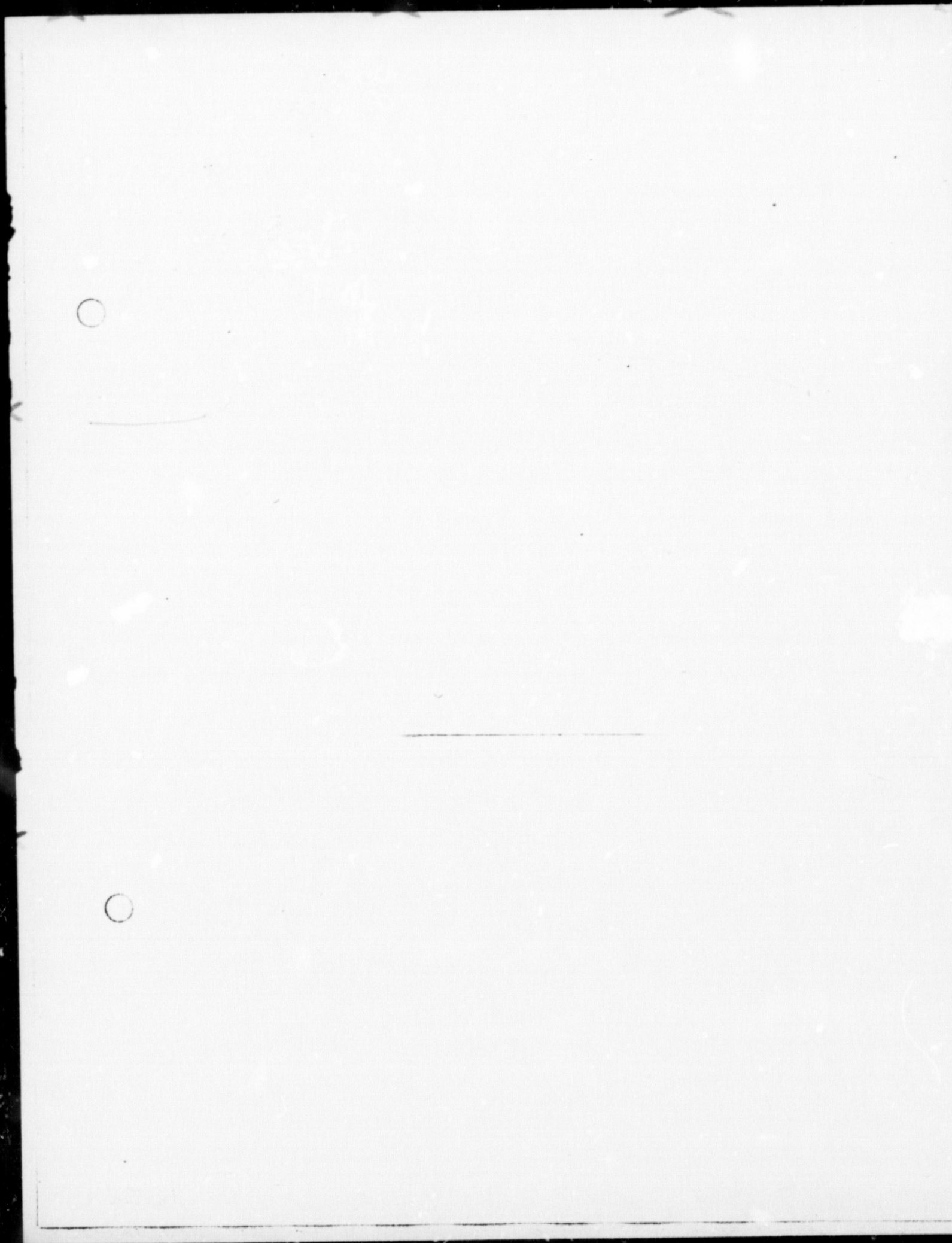
21 A Yes.

22 Q Is that correct?

23 A That is correct.

24 Q That's referred to by CAFRA, an acronym.

25 Does your county receive funding under this program?



Jarman-cross-Jensen

A Yes.

Q Who administers the program at the state level?

A The Department of Environmental Protection.

Q Does the Department of Environmental Protection of the State of New Jersey receive federal funding under the Coastal Zone Management Act which then applies for use in this program?

A Yes.

Q So it would be fair to say your county may in fact be receiving funding that is channelled through the Coastal Zoning Management Act, the federal act?

A Yes.

Q Are you aware of the requirements of that act, that planning activities in the coastal area take into account the need for onshore development related to oil and gas exploration in the continental shelf?

A Yes.

Q In fact, is your planning effort that's funded by these funds doing that?

A Well, we just received a contract to do that coastal zone management plan this week and one of the things we will be studying within the coming year is a suitability of energy related facilities in Cape May County. We will be studying that, yes.

Jarmer-cross-Jensen

Q In effect, you would be planning to accept such development?

A No.

MR. KAUFMAN: Objection, that is not what the witness testified to.

THE COURT: He's answered.

A (continuing) We will be planning whether there are suitable areas in Cape May County for such facilities.

Q Are there such areas?

A I can't conclude that at the beginning of the planning program, whether there are suitable areas in Cape May County for major energy facility. I can't say at this time. Our present understanding of the plan says no, but that will be examined under new light under the new planning program.

Q Are you familiar with the publication of the New Jersey Department of Environmental Protection, entitled "Alternatives for the Coast"?

A Generally, yes.

Q Isn't it true that this document was prepared in whole or in part as part of this CAPRA program you referred to?

A Yes.

Q Are you familiar with conclusions that are

Jarner-cross-Jensen

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2 contained in this document as to the policy of New Jersey
3 concerning offshore oil and development, oil and gas develop-
4 ment?

5 A Generally, yes.

6 Q What are the conclusions?

7 A Well --

8 THE COURT: Excuse me, is that evidence?

9 MR. JENSEN: He can refer to it.

10 THE COURT: Is it in evidence?

11 MR. JENSEN: No, it has not been marked. It
12 was given to me, actually as part of the submission
13 made by the amicus curiae.

14 MR. KAUFMAN: I did an appendix to the brief
15 submitted by the State of New Jersey Public Advocates
16 Office.

17 MR. JENSEN: In that context it's been submitted
18 to the Court.

19 THE COURT: Why don't we mark it in evidence.

20 THE CLERK: Plaintiff's Exhibit T224, marked
21 in evidence.

22 (so marked)

23 THE COURT: What's the name of it?

24 MR. JENSEN: Alternatives for the Coast.

25 (cont'd on next page)

Jarmer-cross/Jensen

Q Will you take a moment, briefly, and refresh your recollection as to the conclusions, if any, that are contained in that report (handing to the witness), concerning OCS development?

A I would have to comment, the report reviewed by my office, and we are in the process of developing response to the report -- that response to the report will be reviewed by the Planning Board to the policymaking body. At this time we have not made any definite conclusions as to the report. We're in the process of reviewing it. I won't give you a personal--

Q I'm asking you what the report concludes, not what you would conclude about the report.

A I presume you're referring to Energy, on page 60.

Q That's one of the references, yes.

A Do you want me to read the report to you or--

Q Or just state in your own words what conclusion.

A Well, there's a series of policy alternatives. The report doesn't necessarily make one conclusion. It just suggests there are policy alternatives for the Coast. One is the State could support OCS development consistent with protecting its environment, maintaining viable tourist economy on the Coast.

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3 2. OCS facility could be located in or near
4 existing industrial areas which have suffered a blight of
5 unemployment, are in need of redevelopment.

6 3. OCS activity could be directed away from
7 popular beach resorts, wetlands, and barrier beach islands.

8 Do you want me to continue on? There are
9 eight policy alternatives.

10 Q Is one of those alternatives that the State
11 of New Jersey could absolutely refuse to have anything to
12 do with OCS onshore development?

13 MR. KAUFMAN: I'm going to object to that
14 question. It's irrelevant to the issues. I don't
15 see any policy alternative that says the State will
16 ignore OCS development, no.

17 Q Isn't it true that this document says, and
18 I quote from page 62:

19 "The central issue is how to accommodate OCS-
20 related industry and facilities without degrading the
21 quality of the State's waters and coastal environment.
22 New Jersey supports OCS activity if it is conducted
23 in a manner in harmony with the natural environment."

24 MR. KAUFMAN: Your Honor, again I'm going
25 to object. The issue before this court isn't
whether anybody supports it. NRDC has not raised

Jarmer-cross/Jensen

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2 the issue of being opposed to OCS development. What
3 it has raised is the issue of whether it's going
4 to be done properly. What that statement says is
5 exactly that. I see no reason why these questions
6 are being asked.

7 THE COURT: I'll permit it as cross-examination.

8 A That is the statement on page 62, and I can't
9 disagree with that statement. We have not disagreed with
10 that statement in the past. The County's position has been,
11 in fact, it would prefer it if it were done right. The
12 County's position is it's not being done right. As long as
13 it's not being done right, we would oppose it. As soon
14 as we get an indication it would be done right, then I would
15 think we would withdraw our opposition. We are in favor of
16 using the resources that are out on the shelf. We are for
17 that. We want it done right.

18 I believe I testified to that at the last
19 hearing.

20 Q In the context of landing pipelines on the
21 New Jersey shore, what exactly do you mean if you say,
22 "If it's done right"?

23 A We have taken the position -- we took the
24 position at the hearings, at the stage of the draft of the
25 environmental impact statement, that there should be adequate

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2 liability compensation so people who are hurt by the pipeline
3 don't have to sue the oil companies.

4 The position of the best technology ought
5 to be required and demonstrated.

6 We took the position that the pipeline is to
7 be mandated instead of tankers, and there may have been
8 several other specifics that we took that we felt should be
9 done prior to going into the CCS program.

10 Q If these concerns were met, you would have
11 no objection, or the County Planning Board would have no
12 objection to pipelines being brought ashore on Cape May
13 County?

14 A That's a broad statement. Generally, the
15 concerns at that hearing were met. I don't think we would
16 oppose the program. I think that was so stated at the
17 time.

18 Q I now want to show you a document entitled
19 "Interim Land Use and Density Guidelines for the Coastal
20 Area of New Jersey," (handing to witness). Do you recognize
21 this publication?

22 A Yes.

23 Q Is this also a publication of the New Jersey
24 Environmental Protection?

25 A Yes.

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2 MR. JENSEN: This was submitted in the same
3 context. I would like to offer it in evidence as
4 well.

5 MR. KAUFMAN: No objection.

6 THE CLERK: Plaintiff's Exhibit T-2-25
7 in evidence.

8 (So marked)

9 Q Is this publication also part of the CAFRA
10 program and the Coastal Zone Management Planning Program in
11 New Jersey?

12 A Yes, it is.

13 Q It was published in preparation for the
14 development of the Coastal Zone Management Plan?

15 A Yes.

16 Q Would you refer to it as a backup document
17 for that ultimate plan?

18 A There was a draft document prepared which
19 I believe a number of counties commented on in this final
20 document. This would be one of the documents -- together
21 with the alternatives to the Coast -- that will go into the
22 preparation of the final management strategy, I believe.
23 I can't speak for the State, though.

24 Q Are you familiar with the conclusions contained
25 in this document?

Jarner- cross /Jansen

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A Generally, it is.

Q Is it also true this document concludes that New Jersey supports OCS development, offshore and onshore?

MR. KAUFMAN: Objection. The issue here isn't whether or not New Jersey supports OCS development, but the propriety with which it is done.

THE COURT: I'll permit it. Cross-examination on credibility.

A I'm trying to read it. As I recall, the draft document of the guidelines and the final document were significantly different in terms of how they treated energy facilities.

As I recall, this final document was somewhat of, for lack of a better word, wishywashy approach. They would take a look at energy facilities on a case-by-case basis. It didn't really conclude that they would look at each impact statement for each energy facility and make an appropriate determination.

Q In the section entitled "Basis for the Guidelines," referring to this publication, again isn't it true there is a section entitled "Accommodating Major Coastal Dependent Energy Related Facilities" (handing to witness)?

A Yes.

Q So that this is an analysis of land use in

1 terms of the possibility that OCS-related facilities will
2 be sited on New Jersey shores, isn't that true?

3
4 A This recognizes the fact that we will have
5 some problems accommodating some energy facilities that may
6 be needed in New Jersey, in the New Jersey coastal area.

7 Q Doesn't it also assume that such energy
8 facilities in fact will be accommodated in New Jersey?

9 A I don't know that this document says that
10 they will accommodate facilities. They address the problem
11 in that they will make determinations at the proper time.
12 I don't think this document does not conclude-- Yes, they
13 will accommodate an energy-related facility in Cape May
14 County. It doesn't face that.

15 It says they have to face the problem in
16 question. They have to approach it on a case-by-case basis.

17 Q Let's try it the other way:

18 Is there anything in that document which sug-
19 gests New Jersey is going to refuse to accommodate such de-
20 velopment?

21 A No.

22 Q You testified that the county Planning Board
23 had some input through this CAPRA effort in the approval of
24 permits for certain kinds of development.

25 A Yes.

Jarner-cross/Jansen

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Q Where would this development occur?

A These were CAPRA applications, if you will, in Cape May County for mostly housing developments.

Q But they would be within coastal areas; is that not true?

A Ninety percent of Cape May County is within the coastal zone areas designated by New Jersey CAPRA Act.

Q This Act requires that a permit be issued before the development can occur in these designated areas?

A Yes.

Q Well, isn't there a similar Act in New Jersey called the 1970 Tidal Wetlands Act?

A Yes.

Q Are there tidal wetlands within New Jersey County?

A Yes.

Q Does the County Planning Board have some input into the approval permits under that Act, for development?

A We usually make recommendations on any major kind of development in the wetlands areas.

Q Are you familiar with New Jersey's experience in administering the permit part of that Act for the period 1973, for example?

A Not intimately, no.

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Q Are you familiar with the publication, annual publication of the United States Presidential Council on Environmental Quality entitled "Annual Report" (handing to witness)?

A No, I haven't seen this report (indicating).

MR. JENSEN: I believe this document was marked in evidence at the earlier hearing. It's the CEQ Report for 1975. It's already in evidence.

MR. KAUFMAN: I have no objection to the documents being in evidence. The witness says he's not familiar with them.

Q I would like to read just a brief passage from this document and then I'm going to ask you if you have any reason to doubt the accuracy of this statement.

"In the first 29 months of New Jersey's permit program, the Department," meaning the Department of Environmental Protection, "received 100 permit applications, decided on 62, and turned down only two outright. Much of the Department effort was in working with developers to redesign projects in order to save wetlands."

Do you have any reason to doubt the accuracy of that statement?

A No.

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2 Q Would you say that it was characteristic of the
3 administration of these programs in New Jersey, the applica-
4 tions by and large are not denied?

5 MR. KAUFMAN: Objection, your Honor.

6 I don't know that he can testify as to whether it's
7 characteristic or not of a state agency. He's
8 talking about what his relationship from Cape May is
9 to the state agencies. He's already testified to
10 that. What they do in Northern New Jersey he may
11 not know anything about.

12 THE COURT: No, he's testified with respect
13 to the 3-tier veto system. I'll permit it.

14 A I can only testify to the applications that
15 I'm familiar with in Cape May County. I believe CAPRA appli-
16 cations, 735, were denied. I do know the County of Cape
17 May submitted an application to do a short roadway in wet-
18 lands. The County was denied that permit. From the County's
19 point of view, what I've seen in Cape May County, DEP is not
20 too lenient in granting applications.

21 Q Wouldn't it be fair to say neither of these two
22 statutes in any way represents an absolute prohibition by
23 the State of New Jersey against developments in these areas?

24 A I agree with that statement.

25 Q In fact, there is now, currently, a substantial

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2 amount of development that's ongoing in both tidal wetlands
3 area and in areas of the Coastal Wetlands Facilities Review
4 Act.

5 A I couldn't agree with the first statement.
6 There are not a large amount of developments taking place in
7 the wetlands. What the State does do is it attempts to
8 minimize development in wetlands. On several applications
9 we have recommended approval of those applications where
10 they minimized the destructions to the wetlands.

11 Q But in some circumstances dredging of wetlands
12 for example, has been allowed?

13 A Yes.

14 Q I have one final question. Are you a member
15 of the American Society of Planning Officials?

16 A Yes.

17 Q Is that the correct title for that organiza-
18 tion?

19 A Yes.

20 Q How long have you been a member?

21 A I've been a member since I've been the planning
22 director for Cape May County.

23 Q Which is?

24 A Which is three and a half years.

25 Q You participate in the activities of that group?

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Jarmer-cross-Bruce

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2 Q Mr. Jarmer, is Delmont, New Jersey within
3 Cape May County?

4 A I don't believe so.

5 Q You testified, briefly, in Mr. Jensen's
6 interrogation about the Coastal Zone Management Act. I
7 would like to go into that a little bit further with you.

8 The Coastal Zone Management Act contemplates,
9 does it not, the State of New Jersey will come up with a
10 comprehensive Coastal Zone Management Program for the entire
11 state?

12 A Coastal Zone?

13 Q For the Coastal Zone of the entire state. You
14 are making input into that, I take it, from your County
15 perspective?

16 A Yes.

17 Q But the issues will be resolved and the
18 development assign of that program will be done by a State
19 agency?

20 A I have to give a qualified answer to that.

21 Q To the extent of your knowledge.

22 A To the extent of my knowledge the management's
23 strategy that we have been discussing with the State is one
24 where local and county governments will have a part in that
25 final management strategy. It's our hope on the county level

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Jarner-cross-Bruce

it will not solely be a State decision. It would also be local and county participation of that decision and participation in the planning process after the plan is completed.

Q In formulating the plan. The plan will be formulated -- progressed, I'm sorry -- by the State?

A It will be adopted by the State Legislature, yes.

Q New Jersey's -- whatever agency -- what agency in the State of New Jersey is actually coordinating the development of the program?

A The Department of Environmental Protection.

Q They have been working on their program for some years, have they not?

A Yes.

Q They have indicated to the Department of Commerce and the Federal Government they are developing a program?

A Yes.

Q They have received funding from the Federal Government for that developmental purpose, have they not?

A Yes.

Q And the funds they have received are quite substantial, several millions of dollars at least, is that not so?

Jarmer-cross-Bruce

A It may be that high, yes.

Q Mr. Jarmer, isn't it a fact that one of the prerequisites of an acceptable program is the State being able to offer in its program a comprehensive control that will allow the resolution of local issues and local disputes within this State program?

A Yes.

Q I believe you also testified in response to something that Mr. Jensen asked you that another one of the prerequisites of an improved program is recognition of the national interest in the siting of energy facilities?

A Yes.

Q And that energy facilities would include pipelines from OCS activities?

A I believe it would, yes.

Q Mr. Jarmer, you said in response to something that Mr. Jensen asked you that pipelines were the way to do it, you had no objection to the program if it were done right?

A Yes.

Q I take it one of the aspects of it being done right, in your judgment, would be that local and state officials would be provided with information concerning the proposed activities of lessees under OCS?

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2 A Yes, that would be one of the aspects of it
3 being done right.

4 Q In your perspective as a planner, that would be
5 an important aspect?

6 A Yes.

7 Q You are aware, are you not, Mr. Jarner, that of
8 the so-called consistency provisions of the Coastal Zone
9 Management Act --

10 A Yes.

11 Q You are aware, are you not, those consistencies,
12 provisions of the Act require that Federal permittees, lessees,
13 or licensees, as the case may be, provide the State with all
14 necessary data concerning impact on the Coastal Zone?

15 MR. KAUFMAN: Your Honor, I've got to object to
16 this whole line of questions on the Coastal Zone
17 Management Act. I've been listening to see where it's
18 going.

19 It seems clear to me we had established in the
20 earlier hearing in this case and your Honor had even
21 commented on the fact the Coastal Zone Management Act
22 was not going to be affected and was not going to have
23 any force of any kind in terms of regulating the
24 bringing in of pipelines and other activities under
25 lease sale number 40. Because they won't be in effect

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3 If, what they're saying, if what counsel is
4 saying, as I understand -- properly, is that because
5 these pipelines may be a couple of years down the
6 road they will be consistent. That has not been their
7 position up until now. If they're prepared to say
8 "yes" they will be consistent we would like to hear
9 that from both them and the Government. If not, I
10 still stand on the objection which is that the CAPRA,
11 as your Honor had said, the CAPRA plans won't be
12 in force in time to do the protections that are
13 necessary.

14 THE COURT: I'll permit some questions. Go
15 ahead.

16 Q Quite frankly, I've forgotten -- can you read
17 back the last question -- I'll spare you. I recall it.

18 In fact, under the Coastal Zone Management
19 Act there is a requirement; certificate of consistency, the
20 Federal permittee, licensee, must provide the State with all
21 the necessary data?

22 A Yes.

23 Q You will have access to that data via your
24 relationship with the Department of Environmental Protection.

25 MR. KAUFMAN: Again, I object at this point.
The CAPRA plans are not in effect. There is no

7 1 requirement that those things be submitted to the
2 State. That will only be when the States have enacted
3 these plans and the consistency aspect of it are in
4 effect and that at this present time that is not true.
5 That may be two years down the road.
6

7 MR. BRUCE: I think I've got an answer. I'll
8 go on to something else to avoid this further dialogue
9 from Mr. Kaufman. I just noticed the statement Mr.
10 Kaufman keeps referring to, consistency in CAFRA.

11 MR. KAUFMAN: In the CCMA.

12 Q Mr. Jarner, let's talk about something other
13 than CCMA. Let's talk about something a little more
14 immediate, perhaps.

15 Are you aware of steps that have been taken
16 by the Department of the Interior now to provide information
17 to planners such as yourself, your county, the state, for
18 lessee activities prior to the adoption of Coastal Management
19 plans?

20 A I have not seen anything yet. In answer to
21 that question I would have to state that it's my under-
22 standing that there were exploration plans submitted a number
23 of months ago for Baltimore County and that system doesn't
24 seem to be working.

25 Q I take it that your conclusion that it doesn't

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seem to be working is based upon the fact that you yourself have not gotten this information?

A We havenot receivedthe information.

Q Is it not that fact also consistent with the conclusion that there is no exploration activity now located or planned for Cape May County?

A (No response.)

Q Wouldn't that explain why you have not received that portion?

A It might.

Q You mean you don't know, do you, whether these plans have been filed as to other locations and other localities have received the information?

A No, I don't.

MR. BRUCK: If I may, I have Defendant's Exhibit marked T-4B which Mr. Kaufman has been furnished, I believe, and Mr. Like has been furnished. I would like to show it. I don't know what your position on this was.

What I want to do, your Honor, is direct this witness' attention to an item that I think the Court could take judicial notice of anyway because it's contained in the Federal Register of October 20, 1976.

MR. KAUFMAN: I don't think I have a copy.

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Jarmer-cross-Bruce

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redirect?

MR. KAUFMAN: Very short.

THE COURT: Why don't you do it and we'll let the witness go and I'll take this other case. We'll take a short recess while I handle my other calender.

REDIRECT EXAMINATION

BY MR. KAUFMAN:

Q Mr. Jarmer, before Mr. Bruce raised an issue, the position of the Planning Board has changed and he made that argument before the Court. What is your position on pipelines and bringing of pipelines across the shore of Cape May County at this point?

A At this point, as I stated, several times previously the County Planning Board is opposed.

Q At the time the impact statement came out is that the position of the County Planning Board?

A Yes.

Q Six months before the impact statement came out was that still the position of the Planning Board?

A Final statoment --

Q That is but last January. To your knowledge has it always been the position of the Planning Board?

A Yes.

(Continued next page.)

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3 Q Did you make these concerns and other items
4 known to the Department of the Interior?

5 A Yes.

6 Q Are the wetlands in your county productive?

7 A Yes.

8 Q What do you mean when you say productive?
9 In what sense?

10 A Wetlands are a vital part of the food chain
11 processes for all the seafood and all creatures that live
12 there.

13 Q Are they productive economically?

14 A Yes, since they support skin fish and shellfish
15 and life.

16 Q What would the consequences have been if an
17 oil spill from a pipeline in Cape May have been?

18 MR. HYMAN: Objection.

19 THE COURT: Sustained.

20 Q Can you describe what would happen to these
21 things in Cape May if an oil spill would take place prior
22 to a renting season?

23 MR. HYMAN: Objection.

24 THE COURT: Sustained.

25 What else do you have?

MR. KAUFMAN: One more thing, your Honor.

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Jarner-redirect

It will take about a minute.

Q You were shown this alternative for the coast.

You were asked a couple of questions about what it provided.

Does this document make provisions or have alternative strategies that have to do with the protection of the coastlines?

A Yes.

Q I refer you to page 8, sir, of this document.

Will you take a look at it?

Will you take a look at page 8 and see if you can point out to the Court what are the alternative strategies on that page and on page 10 which talk about the protection of beaches.

A Well, I am not sure. Could you restate your question?

Q Yes.

I will direct your attention to the provision that says encouraged recreation and tourism.

Are there provisions in here in the implication of alternate strategies which are inconsistent with the idea of providing energy facilities across the beaches?

A Yes.

Q Would you point them out?

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2 A Point them out?

3 Q Yes.

4 A One strategy encourages recreation and tourist
5 development to the coastal areas and another one preserves
6 wilderness in other areas and another one excludes and
7 restricts certain things. Another one sets aside sites or
8 corridors for energy facilities.

9 Q Go to page 10 which is called Guiding
10 Principles.

11 A Yes. It talks about the environment. The
12 productivity of existing marine resources should be main-
13 tained or improved, for example the quality of our bay
14 and ocean water in highly productive areas such as oysters
15 and eels and grassbeds, spawning and feeding areas requiring
16 vigilant protection.

17 Q I direct your attention to page 80 which
18 Mr. Bruce was cross-examining you on, to that first paragraph
19 called If You.

20 I ask you if you would simply point out to
21 the Court the second part of that paragraph, the first part
22 was talked about by Mr. Bruce beginning with the sentence:
23 "There are," and I believe it is the last two sentences.

24 A It reads as follows:

25 "In inherent land use and environmental land

Jarner-redirect

conflicts, in siting such coastal areas in New Jersey which serve as recreational resources for millions of state and out-of-state residents and unless carefully planned and sited prospective energy facilities it could reap irreparable harm."

Q Is that the position of Cape May County?

A Yes.

MR. KAUFMAN: No further questions.

MR. BRUCE: As a formal matter I think I marked for introduction Exhibit 2, 4E, and I should have moved it into evidence.

I moved it into evidence -- well, I will move it into evidence.

THE COURT: Yes, it has been marked.

MR. LIKE: Mr. Dubine asked me to refer to you that he was in error on the tanker. It was the Clympus. The captain comes from Ithaca, Greece.

THE COURT: All right. We will take a short recess.

(A brief recess was declared.)

(After recess.)

(continued next page)

